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ABSTRACT

This document represents the sixth update of the 5-year plan adopted by the Maricopa County Vocational Education Planning Council in 1985 to coordinate secondary, postsecondary, and university level vocational education. Introductory sections provide background information on the council and briefly describe its planning assumptions with respect to technological, financial, demographic and economic trends. Next, a brief progress report for fiscal year (FY) 1988-89 is provided on the Council's eight main goals: horizontal and vertical articulation of vocational education programs; the coordination of public and private vocational education; the use of labor market information in planning; the enhancement of student retention and dropout prevention efforts; the enhancement of employability skills instruction; the establishment of new partnerships with business and industry; the acceptance of vocational courses for academic credit; and the dissemination and use in the county of Council planning guides, such as "To the Future." Finally, goals and recommendations are presented for FY 1989-90. The bulk of the report consists of extensive appendices, providing: (1) a more detailed report of the progress made on each of the Council's eight goals during 1988-89 by individual school districts; (2) a description of the revised course credit articulation procedures and the status of high school to community college articulation in the county; (3) a table ranking current and projected occupational employment and demand in the county; (4) a directory of Council members; and (5) an inventory of county occupational programs. (JMC)

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Coordination of Occupational/Vocational Education

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Maricopa County
Vocational Education
Planning Council
August 1989

JC890397

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FOREWARD

This is the sixth update of the five year Maricopa County Plan that was adopted in 1985. It is meant to be a management tool for Governing Boards and administrators to promote the development and improvement of Vocational Education.

The Maricopa County Community College District greatly appreciates the dedicated participation of Maricopa County Vocational Education Planning Council members. These high school and college administrators and representatives of business, industry, private schools, governmental agencies, and universities have been responsible for development and accomplishment of the goals and objectives in this Plan.

Recognition is hereby given to Irene Wernett who researched and added additional sections to the Planning Assumption section and produced this version of the Maricopa County Vocational Education Plan.

Comments on this plan may be addressed to:

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TABLE OF CONTENTS

	Page
INTRODUCTION	1
PLANNING ASSUMPTION	2
PROGRESS REPORT	5
FY 1989-90 GOALS AND OBJECTIVES	7
RECOMMENDATIONS	9
APPENDICES	
A - Progress Made Towards Attainment of FY 1988-89 Maricopa County Vocational Education Planning Council Goals	10
B - Revised Course Credit Articulation Procedures	22
C - Status of High School to Community College Articulation in Maricopa County, Arizona	27
D - Maricopa County Occupational Employment and Demand	38
E - Directory of Vocational Education Planning Council Members	53
F - Inventory of Occupational Programs	57

INTRODUCTION

The Maricopa County Vocational Education Planning Council was mandated by the Arizona Vocational Education Act of 1982. The goal was coordination of secondary, post-secondary, and university level vocational education so that students could progress without duplication of time, effort or expense to themselves or taxpayers. According to ARS 15-790:

* Secondary Schools are responsible for career exploration and entry-level vocational education.
* Community Colleges are responsible for advanced vocational and technical education, retraining and upgrading of occupational skills and for providing vocational and technical education which focuses on the economic development of this state.
* Universities are responsible for research related to vocational and technical education and career exploration.

Statutes direct planning efforts to focus upon ...

* Labor market needs.
* Analysis of possible program duplication.
* Guidelines for the interface of secondary and post-secondary vocational programs.
* Cooperative programming among the providers of vocational education and employment training.
* Priorities for operational and capital funding with methods to meet the funding needs.

The Maricopa County Vocational Education Planning Council consists of ...

* Representatives from business and industry;
* The Vocational Director from each secondary and unified school district;
* The Occupational Dean from each community college;
* Representatives from Arizona State University and Northern Arizona University, private schools, the Arizona Center for Vocational Education, the Arizona Department of Economic Security, the Arizona Department of Education, the Maricopa County Private Industry Council, and the Bureau of Apprenticeship Training.

The Maricopa County Vocational Education Planning Council is coordinated by the Maricopa County Community College District's Director of Occupational Education and meets three to four times each year.

PLANNING ASSUMPTIONS

Technological Trends: Technological innovations will continue in the telecommunications, robotics, lasers, information processing, fiber optics, biomedical and biochemical fields. The computer will continue to be important and will impact nearly all aspects of our personal and work lives. The rate of technological development will largely be driven by market-place economics. The levels of technological innovations will be on the increase with new products or products with software enhancements coming to market in shorter and shorter periods of time.

To keep up with the technological changes in the workplace, more people will need computer usage training. Those lacking computer literacy skills are likely to be relegated to lower paying jobs. Job tasks will also continue to be impacted by technological advances. This will result, in many cases, in the replacement of intermediate level tasks by less skilled or unskilled tasks. Training will be needed for higher level skills.

The computer will continue to be an effective tool for making more efficient use of time, accelerating the learning process, and removing the drudgery involved in learning or performing some tasks.

Financing Trends: With an increasing rate of technological development, educational institutions will have difficulty keeping up with computer, software, science support, and laboratory equipment purchases. Effects of national legislation will reduce the federal resources and put more financial pressure on the state and localities.

Other sources will need to be located to assist in providing technical support to education. There are indications that corporations are increasingly willing to buy training at the postsecondary level.

More corporations are showing a desire to form partnerships or make collaborative efforts to improve vocational training and are more willing to provide goods or services to improve programs.

Demographic Trends: Maricopa County's population growth will not increase as rapidly as it has in the past. This is due to the fact that in-migration will almost equal out-migration and because there has been a decline in the the rate of new jobs created. Increase in population will mainly come from new births. Growth will continue to be unequal for the County, creating a decline in enrollment in some school districts and growth in others.

Patterns of income distribution are changing. Larger numbers of families have two wage earners, making for higher total family incomes. However, the increasing number of families headed by single parents (usually women) often have quite low or even poverty level wages.

Minorities, including women, will continue to be the largest percent of the population with incomes below the poverty level. The number of single parent families headed by women is increasing. Sixty percent of all children will live in a single parent household sometime before their 18th birthday. This increase is due not only to divorce or separations, but also to teenagers bearing children. Increase in teenage pregnancies is seen most dramatically in minority populations. This is one of the reasons why the percentage of minority population is projected to increase throughout the next decade in Maricopa County.

Persons not possessing identifiable job skills or high school diplomas will be at great disadvantage for employment in a job market which requires high levels of skill. Unskilled persons in this country will be in competition with unskilled workers in other countries for employment because manufacturers tend to move their operations to areas with low labor costs.

Those who drop out of school prematurely will be particularly ill-prepared to compete in the future labor market. Unfortunately, the school dropout rate is increasing both locally and nationally. Increased graduation requirements, economics, failure to acquire basic skills, teenage pregnancies, and dissatisfaction with the system contribute to this problem.

Many of these demographic and social trends will have significant economic consequences for public schools and for society in general. Single parent families, pregnant teenagers, and unemployed school dropouts tend to be consumers rather than contributors to public monies because of their low incomes and need for social services. More programs for this At-Risk population will need to be developed to equal the scales.

Economic Trends: Arizona will continue to grow, but at a significantly lower rate than in the recent past. While long term prospects remain excellent, the coming year will yield mixed results.

Those sectors of the economy which have shown long-term growth, like many components of the Service industry, will continue to grow. Construction, and sectors of the economy which are tied to construction (Finance, Insurance, and Real Estate) will continue to lose employment during the coming year.

There will however be an increase of more than 66,000 new jobs for 1989 and 1990. This year, for the first time ever, Maricopa County's total employment is projected to rise over the million mark to 1,002,400 with a continued increase in 1990 to 1,041,700. Details of the economic forecast through 1990 are present in the following table.

MARICOPA COUNTY ECONOMIC FORECASTS
(Annual Averages, in Thousands)

	1988	Growth Rate	1989	Growth Rate	1990	Growth Rate
Labor Force	1,027.7	NA	1,059.6	3.1%	1,098.8	3.7%
Unemployed	52.2	NA	57.2	9.6%	57.1	-0.2%
Unemployment Rate	5.1%	--	5.4%	---	5.2%	---
Total Employment	975.1	NA	1,002.4	2.8%	1,041.7	3.9%
Total Wage and Salary Employment	931.3	1.9%	947.4	1.7%	971.0	2.5%
Manufacturing	138.3	1.9%	140.7	1.7%	143.4	1.9%
Mining	0.7	16.7%	0.7	0.0%	0.8	14.3%
Construction	64.6	-7.6%	60.7	-6.0%	61.5	1.9%
TCPU*	50.3	2.7%	51.3	2.0%	52.3	2.0%
Trade	235.7	1.8%	240.8	2.2%	246.4	2.3%
FIRE**	74.3	-0.8%	72.1	-3.0%	73.2	1.5%
Services	243.9	5.1%	254.2	4.2%	263.8	3.8%
Government	123.6	3.0%	126.8	2.6%	129.6	2.2%

*TCPU = Transportation, Communications, and Public Utilities.
**FIRE = Finance, Insurance, and Real Estate.

Notes: Totals may not be exact due to rounding.
NA = Data not availiable at time of printing.

Source: Arizona Department of Economic Security, Research Administration, February 1989.

PROGRESS REPORT

Local Directors were surveyed to learn the progress made during the past year towards accomplishment of FY 1988-89 Planning Council goals. A copy of the resultant report is attached as Appendix A. The following is a synthesis of information included in that report and data gleaned from other sources.

HORIZONTAL AND VERTICAL ARTICULATION: The most significant FY 1988-89 accomplishment was development of the revised Course Credit Articulation procedures attached as Appendix B. The revised procedures are currently under field test at Deer Valley Unified School District, Phoenix Union High School District and Scottsdale Unified School District. Previously negotiated articulation agreements will remain in effect, unless there have been significant curriculum changes, until results of the field test are received. In addition, Occupational Deans were surveyed to ascertain the status of articulation agreements and this report is attached as Appendix C.

PUBLIC - PRIVATE SCHOOL COORDINATION: A number of Maricopa County secondary school districts contract out cosmetology training with local private schools. The only new development involves Mesa Unified School District where plans are underway to contract out additional vocational training programs as well.

LABOR MARKET INFORMATION: Every secondary school uses labor market information as necessary to meet State of Arizona Program Standards. In addition, the Agua Fria, Chandler, Gilbert, Glendale, Peoria, and Phoenix Union Districts used labor market information for purposes of program planning. Cave Creek High School includes labor market information in a special Career Education and Personal Development Course and Tolleson Union High School District has installed a computerized system that makes labor market information available to students.

STUDENT RETENTION: Twelve secondary districts indicated that new student retention and dropout prevention programs were implemented during the past year. Chandler High School has a new cooperative program with Chandler/Gilbert Community College that involves tutoring. Deer Valley, Glendale, Mesa, Scottsdale and Tolleson Districts have implemented programs that take advantage of the unique qualities of their vocational programs.

EMPLOYABILITY SKILLS: Most Secondary districts have already taken steps to integrate employability skills into the vocational curriculum. Buckeye and Dysart Districts have implemented courses to teach employability skills to special education students. Cave Creek High School has developed a special course

to teach these skills and Chandler High School is using a computerized program. Phoenix Union High School District has employed a Job Placement Specialist to teach employability skills at Metro Tech VIP. Tolleson Union High School District teachers have decided to integrate a three-day unit on employability skills into the curriculum of each vocational program.

INDUSTRY - EDUCATION PARTNERSHIPS: Ten secondary districts have operational partnerships with local business and industry that are above and beyond those engendered in traditional cooperative education. In fact, the Phoenix Union High School District partnership with Best Western is being featured nationally as a model program.

ACADEMIC CREDIT: There has been a surprising amount of progress towards accomplishment of this goal. Eight secondary districts now have vocational courses which qualify for academic credit and two additional districts have proposals currently under consideration.

TO THE FUTURE: The Arizona Department of Education reprinted and disseminated To the Future and conducted inservice workshops on use of the new Counselor's Guide. Eight secondary districts were aware of the fact that this had occurred.

FY 1989-90 GOALS AND OBJECTIVES

GOAL 1: Achieve horizontal and vertical articulation.

1.1 Conduct articulation projects between secondary and postsecondary institutions.

1.2 Identify effective articulation procedures.

1.3 Establish and maintain a clearinghouse/network to disseminate information and coordinate activities about ongoing articulation projects.

1.4 Develop a cost/benefit analysis for articulation efforts.

1.5 Develop an effective tracking system to follow-up on students who articulate to the community college system and to determine how many are continuing their education.

GOAL 2: Develop effective ways of sharing resources.

2.1 Coordinate support services such as placement, guidance and counseling, handicapped and equity, basic skill training/remediation, and in-service activities.

2.2 Identify procedures for sharing human, physical, and fiscal resources.

GOAL 3: Identify situations in private and public institutions where coordination is mutually beneficial and pilot some individual cooperative projects and activities.

3.1 Establish a dialogue between public and private schools/colleges to identify mutually beneficial relationships.

3.2 Pilot some individual projects and activities which involve cooperation/coordination between public and private schools (e.g., placement, recruitment, sharing of resources, coordinated activities, etc.).

GOAL 4: Use labor market information to assist in program planning, curriculum decisions and inservice training.

4.1 Share labor market information with faculty, counselors, and students.

4.2 Conduct training sessions on the effective use of labor market information.

4.3 Direct priority attention to high demand occupations (in terms of employment opportunities).

4.4 Maintain industry-current occupational programs.

GOAL 5: Improve high school and college student retention.

5.1 Increase opportunities for "2+2+2" vocational programs.

5.2 Offer shorter term and open entry/open exit courses.

5.3 Implement mentoring programs.

5.4 Implement parent involvement programs.

GOAL 6: Ensure that more students leave high school with employability skills (basic skills, responsibility skills, and occupational/ technical skills).

6.1 Encourage the inclusion of keyboarding skills as a major component of all vocational education programs.

6.2 Improve the image of vocational programs with industry help.

GOAL 7: Form industry/education partnerships to improve vocational training and education and international competitiveness.

7.1 Offer literacy education.

7.2 Conduct retraining and upgrading.

7.3 Obtain alternative methods of funding.

7.4 Guarantee the educational "product" at all levels.

Goal 8: **Make it possible for vocational courses to count toward academic credit for graduation.**

8.1 Encourage legislation that enables vocational courses to be counted for graduation.

8.2 Encourage the secondary accrediting association to accept the granting of academic credit for appropriate vocational courses.

8.3 Encourage university acceptance of vocational courses counted toward academic credit for high school graduation.

RECOMMENDATIONS

RECOMMENDATION 1: That the Arizona Department of Education encourage the integration of keyboarding skills as a major component of all Vocational Education.

RECOMMENDATION 2: That the Arizona Department of Education allocate additional discretionary funding topics for the updating of equipment as needed to improve vocational/technological programs.

RECOMMENDATION 3: That the Arizona Department of Education pursue incorporation of the concepts included in "To the Future" into the Board of Regents "Ready for Success" booklet.

RECOMMENDATION 4: That the Council work cooperatively with the Arizona Department of Education to clarify and improve the process for county area planning funding.

RECOMMENDATION 5: That the Arizona Legislature provide incentives to business and industry which encourage support and participation in vocational education by providing tax credits for the donation of equipment and space.

RECOMMENDATION 6: That the State Board of Directors for Community Colleges in Arizona and State Board of Education Joint Coordinating Committee improve the ability of secondary schools and colleges to articulate by coordinating vocational teacher certification requirements so that teachers from either level institution can teach both college and secondary school students.

APPENDIX A

PROGRESS MADE TOWARD ATTAINMENT OF FY 1988-89 MARICOPA COUNTY VOCATIONAL EDUCATION PLANNING COUNCIL GOALS

1. **Articulation of vocational education programs.**

Agua Fria Union High School District: No additional progress made towards attainment of this goal.

Buckeye Union High School District: No additional progress made towards attainment of this goal.

Cave Creek Unified School District: Plans are underway to develop an accounting program articulation agreement with Paradise Valley Community College.

Chandler Unified School District: Developing an Aircraft Maintenance Technology articulation agreement with Chandler/Gilbert Community College and Business courses are articulated with Mesa Community College. Rio Salado Community college is using Chandler High School to teach Adult Basic Education classes and Chandler/Gilbert Community College uses Chandler High School to teach a variety of classes.

Deer Valley Unified District: Computer Assisted Drafting is being articulated with Glendale Community College using the revised course credit articulation procedure.

Dysart Unified School District: Typing courses and keyboarding 3-4 were articulated with Glendale Community College.

Gila Bend Unified School District: Rio Salado Community College teaches a number of classes at Gila Bend High School.

Gilbert Unified School District: Distance Learning is articulated with Rio Salado Community College and Macintosh courses have been taught at Chandler/Gilbert Community College.

Glendale Union High School District: Drafting is being articulated with Glendale Community College. In addition, Students use the open-entry/open-exit clerical block at Glendale Community College to learn computer application skills and vocational evaluations.

Mesa Unified School District: Ongoing articulation with Mesa Community College. In addition, Mesa Community College has been using Mesa Vo Tech facilities to teach welding.

Paradise Valley Unified District: No additional progress made towards attainment of this goal.

Peoria Unified School District: Computer assisted drafting, carpentry, and electronics students attend class at Deer Valley Vocational Technical Center. The nursing articulation agreement with GateWay Community College has been reactivated.

Phoenix Union High School District: The new course credit process is being implemented in a number of programs. Phoenix College uses Metro Tech VIP to teach a number of vocational classes.

Queen Creek Unified School District: No additional progress made towards attainment of this goal.

Scottsdale Unified School District: The new course credit process is being implemented in a number of programs and the Early Childhood program is newly articulated between Coronado High School and Scottsdale Community College. The University of Arizona NOVA-NET is being used to teach some courses and enhance existing courses and the Computerized Job Placement agreement with Maricopa Community College District is working extremely well.

Tempe Union High School District: No Report.

Tolleson Union High School District: There is an on-going agreement with the GateWay Community College nursing program.

Wickenburg High School: No progress made towards attainment of this goal.

2. Coordination of public and private vocational education.

Agua Fria Union High School District: Graduates go to Devry and Universal Technical Institute.

Buckeye Union High School District: Cosmetology is contracted out to the Maricopa College of Beauty.

Cave Creek Unified School District: No additional progress made towards attainment of this goal.

Deer Valley Unified District: Cosmetology is contracted out to the Phoenix Academy of Beauty.

Dysart Unified School District: No additional progress made towards attainment of this goal.

Gila Bend Unified School District: Cosmetology is still being contracted out.

Mesa Unified School District: Cosmetology is still contracted out. Plans are underway to contract out five more vocational programs next year.

Paradise Valley Unified District: Scottsdale Christian Academy is sending students to the Vo Tech Center and cosmetology students attend local proprietary schools.

Peoria Unified School District: The dropout prevention program is operated in Peoria District high schools in conjunction with Ombudsman, a private corporation.

Phoenix Union High School District: No additional progress made towards attainment of this goal.

Scottsdale unified School District: Cosmetology is contracted out.

Tempe Union High School District: No report.

Tolleson Union High School District: Cosmetology is contracted out.

Wickenburg High School: No progress made towards attainment of this goal.

3. Use of labor market information.

Agua Fria Union High School District: Labor market information is being used to upgrade the automotive mechanics and drafting programs. In addition, labor market information is included in program files as necessary to meet state standards.

Buckeye Union High School District: Labor market information is included in program files as necessary to meet state standards.

Cave Creek Unified School District: Labor market information is included in program files as necessary to meet state standards. In addition, this is one component in the Career Education and Personal Development course.

Chandler Unified School District: Labor market information is used extensively as Chandler Unified School District is currently developing a five year vocational education plan. In addition, labor market information is included in program files as necessary to meet state standards.

Deer Valley Unified District: Labor market information is included in program files as necessary to meet state standards.

Dysart Unified School District: Labor market information included in program files as necessary to meet state standards.

Gila Bend Unified School District: Labor market information is included in program files as necessary to meet state standards.

Gilbert Unified School District: Labor market information was used to expand the traditional home economics program to include culinary arts.

Glendale Union High School District: Labor market information is included in program files as necessary to meet state standards and during monthly department chair meetings for program planning purposes.

Mesa Unified School District: Continuing to use labor market information for program planning.

Paradise Valley Unified District: Labor market information is included in program files as necessary to meet state standards.

Peoria Unified School District: Labor market information is included in program files as necessary to meet state standards and the computerized Arizona Department of Education system is being used for program planning purposes.

Phoenix Union High School District: Continuing to use labor market information for program planning purposes. In addition, labor market information is included in program files as necessary to meet state standards.

Queen Creek Unified School District: Continuing to use labor market information for program planning purposes. In addition, labor market information is included in program files as necessary to meet state standards.

Tempe Union High School District: No report.

Tolleson Union High School District: Labor market information is included in program files as necessary to meet state standards. In addition, the computerized Occupational Information System has been installed and is operational.

Wickenburg High School: Labor market information is included in program files as necessary to meet state standards.

4. **Enhancement of student retention and dropout prevention efforts.**

Agua Fria Union High School District: No additional progress made towards attainment of this goal.

Buckey Union High School District: No additional progress made towards attainment of this goal.

Cave Creek Unified School District: Potential dropouts are given intensive counseling.

Chandler Unified School District: Working with Chandler/ Gilbert Community College to develop a drop out prevention program which involves tutoring.

Deer Valley Unified District: A dropout program, whereby students are now allowed to attend Deer Valley Vocational Technical Center full-time, has been developed and it is working well.

Dysart Unified School District: New intervention programs implemented this year include Project Graduate and the Teen Parent Program.

Gila Bend Unified School District: Very few students drop out of Gila Bend High School.

Gilbert Unified School District: Several teachers attended a special workshop at Charter Hospital to learn dropout and drug prevention skills and they are currently working with thirty students who have been identified as "high risk."

Glendale Union High School District: At-Risk Enrichment Seminars are now established at each school. In addition, JTPA is being used to keep students in school. Dropouts are brought back to school, their day is restructured, they are taught basic skills, given a vocational evaluation, provided prevocational training, vocational training and additional counseling and guidance.

Mesa Unified School District: Vocational students who are apt to drop out are provided with an Individual Vocational Education Plan, and in some instances a vocational evaluation. Teachers alter curriculum, competency lists, instructional methods and materials and provide additional assistance so that At-Risk students can succeed. Vocational education co-op programs join with JTPA to provide more opportunities for success for qualifying students.

Paradise Valley Unified District: No additional progress made towards attainment of this goal.

Peoria Unified School District: Learning Centers, which house dropout prevention programs that are operated in conjucntion with the Ombudsman Corporation, have been established at each high school.

Phoenix Union High School District: Have employed Intervention Specialists at all high schools.

Queen Creek Unified School District: Potential dropouts are given intensive counseling.

Scottsdale Unified School District: Individual Vocational Education Plans are used to work with potential dropouts. A school to work transitional class for At-Risk senior students has been developed that focuses on flexible scheduling, two hour class time and an increased credit base through off campus industry training classes, tutoring and remediation through computer aided instruction. In addition, the dropout program focuses on career research and counseling, job market analysis and one year student followup.

Tempe Union High School District: No report.

Tolleson Union High School District: A dropout prevention program is now in place and an aide is assigned to specific students in vocational classes as needed.

Wickenburg High School: Several faculty and staff have received specialized training in dropout prevention and are working towards accomplishment of this goal.

5. **Enhancement of employability skill instruction.**

Agua Fria Union High School District: Working to bring all vocational programs up to standard.

Buckeye Union High School District: Applied Communications are being taught to Special Education students and a special Employability Skills class is now provided to seniors.

Cave Creek Unified School District: A course titled Career Education and Personal Development has been added to the curiculum. This course teaches career identification and employability skills.

Chandler Unified School District: Employability skills will be reintegrated into the curiculum this summer through a series of curriculum workshops.

Deer Valley Unified District: Employability skills will be reintegrated into the curriculum this summer during a series of workshops.

Dysart Unified School District: Have placed Special Education students into on-campus and off-campus jobs as a way to teach employability skills which are integrated into existing vocational programs.

Gila Bend Unified School District: Employability skills are integrated into vocational courses.

Gilbert Unified School District: Continuing to improve these components of each vocational program.

Glendale Union High School District: Dropouts are brought back to school and provided a special JTPA program that teaches employability skills.

Mesa Unified School District: Continuing to do this.

Paradise Valley Unified District: Employability skills are being integrated into the scope and sequence for each vocational program.

Peoria Unified School District: Employability skills are integrated into some vocational courses.

Phoenix Union High School District: Have employed a Job Placement Specialist to teach these skills at Metro Tech VIP.

Queen Creek Unified School District: No additional progress made towards attainment of this goal during this academic year.

Scottsdale Unified School District: Teaching employ-ability and responsibility skills in the classroom environment. Applied techniques in the mechanics of all

job applications. Audio/visual instruction in self-awareness, motivation and work attitudes.

Tempe Union High School District: No report

Tolleson Union High School District: Vocational teachers have decided to integrate a three-day unit on employability skills into the curriculum of each program.

Wickenburg High School: These skills are taught in the Diversified Cooperative Education course.

6. **Establishment of new industry/education partnerships.**

Agua Fria Union High School District: No additional progress made towards attainment of this goal.

Buckeye Union High School District: Place cooperative education students at Beams Corporation, Rubbermaid and Shult Mobile Homes.

Cave Creek Unified School District: This has been identified as a district goal and the superintendent has taken leadership.

Chandler Unified School District: Development of business/industry partnerships has been incorporated into the five year plan.

Deer Valley Unified District: The State of Arizona Electronics Education pilot program is still in place and the Medical Arts program has on-going partnerships with Walter O. Boswell Memorial Hospital and John C. Lincoln Hospital and Medical Center.

Dysart Unified School District: Coco's is being used as an off-campus training site to teach the fast-food business to special needs students.

Gila Bend Unified School District: None at present.

Gilbert Unified School District: None at present.

Glendale Union High School District: Glendale is participating in the "Think Tank" Program with Phoenix Union High School District, Maricopa Community College District and local business and industry leaders.

Mesa Unified School District: McDonnell Douglas is using Red Mountain High School laboratories to teach Drafting to engineers.

Paradise Valley Unified District: The Humana partnership has been further expanded with addition of a third year Nursing Assistant program. In addition, the New Technology Education Program at Shadow Mountain High School is working with the Arizona Partnership to obtain additional equipment.

Peoria Unified School District: Peoria continues to operate its Medical Arts program in partnership with Thunderbird Hospital. In addition, the vocational agriculture program has an ongoing partnership with Lone Mountain Nursery.

Phoenix Union High School District: The Best Western partnership is being featured nationally as a model program and new relationships have been developed with AutoShack and One-Hour Photo.

Queen Creek Unified School District: No additional progress made towards attainment of this goal.

Scottsdale Unified School District: The following industry education partnerships have been established. Rural Metro Fire Corporation - Internship program has been developed and the first year has been completed with a high rate of success. Computer Aided Drafting is being taught via a joint Salt River Project/Rio Salado Community College project - plans are underway to add a second year of instruction. Motorola CEG and Rio Salado Community College training program for students is still highly successful after eight years. A new reciprocal training program between Motorola CEG and Scottsdale VoTech Center is ready to begin in June. Nauman material handling classes will be offered to a larger student population next year.

Tempe Union High School District: No report.

Tolleson Union High School District: There is an on-going cooperative education program. In addition, the health occupations program has an on-going partnership with Bell Lodge.

Wickenburg High School: Addition of a HERO course is being planned. At present a number of students work in local business industry as Diversified Cooperative Education students.

7. **Acceptance of credits earned for completion of vocational courses in lieu of selected academic credit graduation requirements.**

Agua Fria Union High School District: Appropriate committees are considering the use of Drafting as equivalent to Mathematics credit and the acceptance of Vocational Agriculture credits in place of Free Enterprize credit.

Buckeye Union High School District: Have achieved academic credit for completion of Technology Education.

Cave Creek Unified School District: Vocational courses receive elective credit at present.

Chandler Unified School District: Have discussed this with the governing board and expect to achieve academic credit for completion of the articulated Aircraft Maintenance Technology Course.

Deer Valley Unified District: Medical Arts courses qualify for laboratory science credit and the Marketing and Applied Economics courses qualify for Free Enterprise credit.

Gila Bend Unified School District: No progress on this to date.

Gilbert Unified School District: Have proposed an interdisciplinary course involving Mathematics, English and business concepts that will receive academic credit.

Glendale Union High School District: General Business now qualifies for senior mathematics credit.

Mesa Unified School District: Maintaining current credits and Consumer Economics has been approved for Free Enterprize credit.

Peoria Unified School District: Entry-level Medical Arts courses earns Laboratory Science credit and Medical Arts faculty have initiated the procedures necessary to have the Clinical Laboratory Science course accepted for laboratory science credit as well.

Phoenix Union High School District: No additional progress made towards attainment of this goal.

Queen Creek Unified School District: No additional progress made towards attainment of this goal.

Scottsdale Unified School District: Health courses earn Science credit and progress is being made towards the award of Mathematics and Science credit for completion of Applied Technology and Applied Mathematics courses.

Tempe Union High School District: No report.

Tolleson Union High School District: Students receive academic credit for completion of Vocational Agriculture and Health Occupations classes.

Wickenburg High School: No progress made towards attainment of this goal.

8. **Dissemination and use of To the Future and the related Counselor's Guide.**

Agua Fria Union High School District: Have received To The Future and plan to use it during the FY 1989-90 school year.

Buckeye Union High School District: Have received To the Future and it is being used.

Cave Creek Unified School District: Not aware of its use.

Chandler Unified School District: Not aware of its use.

Deer Valley Unified District: To the Future has been integrated into the eigth grade social studies curriculum.

Dysart Unified School District: Not aware of its use.

Gila Bend Unified School District: Not aware of its use.

Gilbert Unified School District: Not aware of its use.

Glendale Union High School District: To the Future was received, counselors were inserviced, and it was used this spring during the fall registration process.

Mesa Unified School District: To the Future has been integrated into the four-year plan process that is implemented at the eighth grade level. In addition, it is used with special education students of all grades.

Paradise Valley Unified District: Have the Counselor's Guide but not aware of To the Future being used by feeder schools.

Peoria Unified School District: Counselors have been inserviced in use of the Counselor's Guide but not aware

of To the Future being used by entering high school students to build four year high school career plans.

Phoenix Union High School District: To the Future has been distributed to all schools and counselors have been inserviced in its use.

Queen Queek Unified School District: Not aware of its use.

Scottsdale Unified School District: To the Future has been recieved and will be used with freshman as four-year plans are developed.

Tempe Union High School District: No report.

Tolleson Union High School District: To the Future has been received and will be handed out during feshmen orientation next fall.

Wickenburg High School: Not aware of its use.

APPENDIX B
REVISED COURSE CREDIT ARTICULATION PROCEDURES

The Maricopa County Vocational Education Planning Council devoted the majority of time during this past year to revision of the Course Credit Articulation Procedures. The goal was...

> to increase the number of qualified high school graduates who benefit from Course Credit Articulation.

The revised procedures are as follows:

First - High school and college faculty members meet and decide that some combination of high school level experiences results in mastery of competencieis equivalent to a college course or courses.

Second - An Articulation Agreement is developed and signed.

Third - The college faculty member sends the cooperating high school teacher enough college envelopes for each eligible high school student to address an envelope to him or herself. The high school teacher returns the self-addressed envelopes to the college faculty member.

Fourth - The high school teacher completes a Competency Attainment Record listing the name and social security number of each student who has mastered competencies equivalent to one or more college courses. The Competency Attainment Record is returned to the college's Director of Admissions and Records.

Fifth - The college faculty member uses the self-addressed envelopes to send each qualified individual a letter and supportive materials inviting him/her to enroll in the articulated program and detailing what he or she must do to obtain the Ariticulation Credit earned.

Copies of the revised forms follow.

MEMORANDUM

Dt:

To:

Fr: _____, Articulation Specialist
_____ College

RE: ARTICULATION AGREEMENT

Attached is a copy of the Articulation Agreement which is being developed in conjunction with this college. Performance of the following tasks will result in consummation of this agreement:

1) Sign this copy of the agreement and secure additional signatures as necessary. Make a copy of the signed document for your file and then return the original to me. I will obtain appropriate college signatures and keep signed originals on file here. Ideally signed originals will be returned to me prior to the second week in April.

2) I will send you a college envelope for each student who will be eligible for articulation credit in your program upon completion of the high school experiences designated equivalent to the college course in the enclosed articulation agreement. You should receive these envelopes prior to the end of the third week in April.

3) You will need to have each eligible student self-address a college envelope. Return the self-addressed envelopes to me prior to the end of the first week in May.

4) Complete a copy of the Competency Attainment Record and return it to the Director of Admissions at the college. You need to make this mailing prior to the end of the third week in May.

5) I will use the self-addressed college envelopes to send each of the persons whom you have designated eligible for articulation a personal letter inviting him or her to enroll in the articulated program. This will take place prior to the end of the third week in May.

Thank you for your time and consideration. I will await return of your signed copy of the enclosed agreement.

_____

Enclosure: Articulation Agreement

AGREEMENT

Articulated College Program

High School District _____ College _____

Equivalent High School Experience _____ Equivalent College Course _____

1. Articulation will be via the process of Course Credit. This is the granting of college credit for mastery of competencies equivalent to a college course. The above disignated experience, as taught in the high school district listed above, results in mastery of competencies equivalent to those taught in the designated college course.

   This agreement will make it possible for persons who have successfully completed the designated experience to earn college credit without duplication of time, effort, or expense.

2. High School faculty will complete and mail a signed Competency Attainment Record, which lists the name and social security number of each student who has sucessfully completed the experience designated equivalent to the college course by this agreement, to....

   Director of Admissions and Records

   _____

   _____

   _____

Furthermore, it is recommended that the high school designate a Liaison for this Articulation Agreement.

3. The college will grant "Advanced Standing through Articulated Programs credit" (Articulation Credit) to alumni who have successfully completed the experience designated equivalent to the college course by this agreement, if the alumni's name is listed on a signed Competency Attainment Record, and the student completes the following course with a grade of "C" or better. Enrollment in the designated course must occur within two years of high school graduation.

Advanced Course
in which alumni are
eligible to enroll: _____

Furthermore, it is recommended that the college designate a Liaison for this Articulation Agreement.

4. Both institutions accept the following conditions...

Effective Date: This agreement will be effective for three years beginning the semester when signed unless terminated because major changes in curriculum or faculty have occurred in either program. Renewal will occur upon concurrence of the Principal/Local Director and Dean at each institution.

Application for Articulation Credit: Upon completion of the indicated high school experience, alumni whose names appear on a signed Competency Attainment Record, will be eligible for enrollment into a related advanced course at the college. Upon completion of the advanced course with a grade of "C" or better the college student may request that the Office of Admissions and Records transcribe the Articulation Credit on his or her transcript. The student will not have to pay tutition for credits earned in this way.

Transferability: Articulation Credit is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges or universities.

Termination/Modification: Termination or modification of this agreement may be accomplished by either party serving the other with written notice one semester in advance. All students currently certified eligible for articulation will be given that opportunity as long as they enroll at the identified college within two years after graduation from high school.

5. The following clarification is attached to this application:

Competency List for the College Course
Competency Attainment Record

6. The following persons recommend approval of this articulation agreement:

==========	==========
High School District	College
_____	_____
Faculty	Faculty
_____	_____
Liaison (If different than above)	Liaison (If different than above)
_____	_____
Principal/Local Director	Dean
_____	_____
Superintendent	President
Date:__/__/__	Date:__/__/__

COMPETENCY ATTAINMENT RECORD

_____
Articulated College Program

_____ _____
High School District College

_____ _____
High School Experience Equivalent College Course

Directions to the High School Teacher: Complete and return this form to...

Director of Admissions and Records
_____College
_____
_____, Arizona 85___

as soon as your students have mastered competencies equivalent to the above identified college course. Ideally this will occur prior to the first week in May.

Certification that the following applicants have mastered competencies equivalent to the indicated college course.

High School:_____

Instructor's Signature:_____ Date: __/__/__

Applicant's Name:_____ SS#: ___-___-____
Applicant's Name:_____ SS#: ___-___-____
Applicant's Name:_____ SS#: ___-___-____
Applicant's Name:_____ SS#: ___-___-____
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Applicant's Name:_____ SS#: ___-___-____
Applicant's Name:_____ SS#: ___-___-____

APPENDIX C

THE STATUS OF HIGH SCHOOL TO COMMUNITY COLLEGE ARTICULATION IN MARICOPA COUNTY, ARIZONA

Articulation has been defined as...

> the coordination of programs so that students can progress without duplication of time or expense to themselves or taxpayers.

It has been determined that there are at least five different types of articulation.

* **Contracting** is the purchase of education and training that would not otherwise be available.
* **Course Credit** is the granting of college credit for mastery of competencies which comprise an equivalent college course.
* **Occupational Credential Acceptance** is the granting of college credit for having a valid occupational credential.
* **Resource Coordination** is the pooling of faculty, facilities, and equipment.
* **Two Plus Two** is the complete coordination of secondary and postsecondary level occupational programs.

Current agreements, which involve **Contracting**, include the following:

* **Maricopa Skill Center** is providing vocational training for students from a number of school districts. Area high schools send students to the Skill Center for training that they cannot obtain in their own districts. In addition, dropouts, potential dropouts, and learning disabled/handicapped students are also sent to the Skill Center. Districts referring students include **Phoenix Union, Tempe, Tolleson, and Apache Junction.** The Skill Center trains in the following occupational areas: clerical, meatcutting, health occupations, retailing and banking,hotel/motel, food service, welding,

building trades and maintenance, printing, machine shop, mechanical maintenance, and autobody repair. One new area is being looked at - dry cleaning.

* **Deer Valley High School District, Gilbert High School District, Glendale Union High School District, Mesa Public Schools, Phoenix Union High School District, Peoria Unified School District and Scottsdale Unified District** contract with proprietary schools to make training available for the occupation of Cosmetologist.

Current agreements, which involve **Course Credit Articulation**, include:

GATEWAY COMMUNITY COLLEGE

High School District	College Courses	Credits
Mesa	ADA 102-Advertising Production Methods	3
Paradise Valley	ADA 102-Advertising Production Methods	3
Phoenix Union	DFT 121-Technical Drafting I	3
Scottsdale	DFT 121-Technical Drafting I	3
Phoenix Union	DFT 122-Technical Drafting II	3
Scottsdale	DFT 122-Technical Drafting II	3
Deer Valley	HLR 221-Cardiopulmonary Resuscitation	1
Mesa	HLR 221-Cardiopulmonary Resuscitation	1
Paradise Valley	HLR 221-Cardiopulmonary Resuscitation	1
Phoenix Union	HLR 221-Cardiopulmonary Resuscitation	1
Deer Valley	NUR 101AA-Fundamentals of Nursing	5.5
Paradise Valley	NUR 101AA-Fundamentals of Nursing	5.5
Peoria	NUR 101AA-Fundamentals of Nursing	5.5
Phoenix Union	NUR 101AA-Fundamentals of Nursing	5.5
Tolleson	NUR 101AA-Fundamentals of Nursing	5.5
Deer Valley	NUR 118-Psychiatric Nursing I	1
Paradise Valley	NUR 118-Psychiatric Nursing I	1
Peoria	NUR 118-Psychiatric Nursing I	1
Phoenix Union	NUR 118-Psychiatric Nursing I	1
Tolleson	NUR 118-Psychiatric Nursing I	1
Mesa	NUR 118-Psychiatric Nursing I	1
Deer Valley	RES 100-Respiratory Care Fundamentals I	Variable
Mesa	RES 100-Respiratory Care Fundamentals I	Variable
Paradise Valley	RES 100-Respiratory Care Fundamentals I	Variable
Peoria	RES 100-Respiratory Care Fundamentals I	Variable
Phoenix Union	RES 100-Respiratory Care Fundamentals I	Variable

GLENDALE COMMUNITY COLLEGE

High School District	College Courses	Credits
Deer Valley	ACC 107-Applied Accounting	3
Trevor Browne	ACC 107-Applied Accounting	3
Deer Valley	ADA 114-Graphics Printing Processes	3
Deer Valley	ADA 214-Graphics Camera Techniques	3
Deer Valley	ART 181-Graphic Design I	3
Carl Hayden	BPC 110-Microcomputer Usage and Applications	3
Deer Valley	DFT 252-Computer Aided Drafting	3
Metro Tech VIP	DFT 252-Computer Aided Drafting	3
Deer Valley	MET 101-Machine Shop Theory I	3
Deer Valley	OAS 102-Typing II	3
Deer Valley	OAS 109-Shorthand I	3
Deer Valley	OAS 209-Shorthand III	3
Deer Valley	WLD 101-Welding I	3
Deer Valley	WLD 201-Welding II	3

MESA COMMUNITY COLLEGE

High School District	College Courses	Credits
Mesa	AGS 146-Machinery Operations	3
Mesa	AGS 164-Plant Science	3
Mesa	ANS 110-Introduction to Animal Science	3
Chandler	ART 161-Ceramics	3
Chandler	AUT 101-Internal Combustion Engines Theory	3
Mesa	AUT 101-Internal Combustion Engines Theory	3
Chandler	AUT 102-Automotive Chassis Theory	3
Mesa	AUT 102-Automotive Chassis Theory	3
Mesa	CFS 176-Child Development	3
Mesa	CFS 201-Participation in Child Care & Nursery	4
Mesa	CFS 212-Creative Activities for the Young Child	3
Mesa	CIS 105-Survey of Data Processing	3
Scottsdale	CIS 105-Survey of Data Processing	3
Scottsdale	CIS 111-Programming Theory	3
Mesa	CIS 116-Business Basic	3
Mesa	CIS 158-COBOL I	3
Mesa	DFT 100-Introduction to Drafting	3
Mesa	DFT 121-Technical Drafting I	3
Mesa	DFT 127-Construction Drafting I	3
Mesa	GTC 101-Machine Shop Theory I	3
Mesa	GTC 203-Machine Tools	3
Mesa	GTC 206-Numerical Control Programming*	3
Mesa	MET 101-Machine Shop Theory I*	3
Mesa	MET 150-Machine Practices II*	8

Mesa	OAS 101-Typing I	3
Tempe	OAS 101-Typing I	3
Mesa	OAS 102-Typing II	3
Mesa	OAS 135-Word Processing	2
Chandler	OAS 261-Word Processing Applications I	3
Tempe	OAS 261-Word Processing Applications I	3
Mesa	OAS 250-Word Processing Concepts I	3
Mesa	OAS 261-Word Processing Applications I	3
Mesa	WLD 101-Welding I	3
Mesa	WLD 201-Welding II	3

*These courses are part of the two plus two Machine Trades Program.

PHOENIX COLLEGE

High School Districts	College Courses	Credits
Metro Tech VIP	ACC 107-Applied Accounting	4
Metro Tech VIP	CFS 212-Creative Activities for the Young Child	3
Metro Tech VIP	CFS 269-Child Care Seminar	1
Metro Tech VIP	CFS 270-Child Care Internship	3
Metro Tech VIP	CIS 105-Survey of Computer Information Systems	3
Scottsdale	CMA 102-Medical Terminology	1
Scottsdale	CMA 119-Applied Phlebotomy	1
Deer Valley	DAE/DHE 100-Orientation to the Dental Profession	2
Mesa	DAE/DHE 100-Orientation to the Dental Profession	2
Paradise Valley	DAE/DHE 100-Orientation to the Dental Profession	2
Metro Tech VIP	DAE/DHE 100-Orientation to the Dental Profession	2
Scottsdale	DAE/DHE 100-Orientation to the Dental Profession	2
Phoenix Union	DFT 121-Technical Drafting I	3
Phoenix Union	DFT 122-Technical Drafting II	3
Phoenix Union	DFT 127-Construction Drafting I	3
Phoenix Union	FON 116-Customer Services in Food Service Systems	1
Phoenix Union	FON 117-Practical Line and Prep Cook Functions	3
Metro Tech VIP	FON 118-Commercial Baking	3
Metro Tech VIP	FON 119-Catering-Planning and Production	1
Metro Tech VIP	GBS 105-Business Machines	2
Metro Tech VIP	GBS 131-Business Calculations	3
Metro Tech VIP	GTC 201-Manufacturing Methods	3
Metro Tech VIP	MDR 171-Medical Terminology I	3

Metro Tech VIP	HMM 100-Reservation Sales	5
Metro Tech VIP	MKT 109-Introduction to Fashion	3
Metro Tech VIP	MKT 298AC-Special Projects	3
Phoenix Union	OAS 101-Typing I	3
Scottsdale	OAS 101-Typing I	3
Phoenix Union	OAS 106AA-Clerical Machine Transcription: Basic	1
Metro Tech VIP	OAS 130-Microcomputer Word Processing: Simplified	1
Scottsdale	OAS 135AD-Advanced Micro Word Processing: Word Perfect	2
Scottsdale	PLB 105-Phlebotomy	4
Metro Tech VIP	SLG 101-American Sign Language I	4
Metro Tech VIP	SLG 102-American Sign Language II	4
Metro Tech VIP	SLG 220-Fingerspelling	3
Metro Tech VIP	TEC 123-Clothing Construction	3
Metro Tech VIP	TVL 101-Land/Sea Travel	3
Metro Tech VIP	TVL 103-Air Travel	3
Metro Tech VIP	TVL 105-Domestic Ticketing & Tariff	3
Metro Tech VIP	WLD 101-Welding	3
Metro Tech VIP	WLD 106-Arc Welding	3

RIO SALADO COMMUNITY COLLEGE

High School District	College Courses	Credits
Deer Valley	CRP 102AA-Concrete Forms: Building Layout	1
Deer Valley	CRP 102AB-Concrete Forms: Residential Footing	1
Deer Valley	CRP 102AC-Concrete Forms: Footing & Bolt Layout	1
Deer Valley	CRP 102AD-Concrete Forms: Basic Wall Forms	1
Deer Valley	CRP 102AE-Concrete Forms: Circular Wall Forms	1
Deer Valley	CRP 102AF-Concrete Forms: Column Form	1
Deer Valley	CRP 102AG-Concrete Forms: Spandrel Beam	1
Deer Valley	CRP 102AH-Concrete Forms: Deck Forms & Shoring	1
Deer Valley	CRP 102AI-Concrete Forms: Concrete Stair Forms	1
Deer Valley	CRP 102AJ-Concrete Forms: Tilt-up Construction I	1
Deer Valley	CRP 102AK-Concrete Forms: Tilt-up Construction II	1
Deer Valley	CRP 102AL-Concrete Forms: Bridge Pier Column	1
Deer Valley	CRP 102AM-Concrete Forms: Flatwork	1
Deer Valley	CRP 102AN-Concrete Forms: Culverts, Headwall & Wingwalls	1
Deer Valley	CRP 102AO-Concrete Forms: Concrete Wall Blockout	1

Deer Valley	CRP 102AP-Concrete Forms: Gang Forms	1
Deer Valley	CRP 102AR-Concrete Forms: Retaining Wall Footing	1
Deer Valley	CRP 103AA-Framing: Basic Wall Framing	1
Deer Valley	CRP 103AB-Framing: Wall Layout, Plating & Detailing	1
Deer Valley	CRP 103AD-Framing: Floor Joist	1
Deer Valley	CRP 103AE-Framing: Gable Roof	1
Deer Valley	CRP 103AF-Framing: Hip Roof	1
Deer Valley	CRP 103AG-Framing: Intersecting Roof	1
Deer Valley	CRP 103AI-Framing: Wood Stairs	1
Deer Valley	CRP 103AJ-Framing: Framing Square	1
Deer Valley	CRP 103AL-Framing: Advanced Framing Square Application	1
Deer Valley	CRP 103AM-Framing: Residential Layout	1
Deer Valley	CRP 104AC-Exterior Finish: Canopy	1
Deer Valley	CRP 104AE-Exterior Finish: Roof Coverings	1
Deer Valley	CRP 104AH-Exterior Finish: Commercial Display	1
Deer Valley	CRP 105AA-Exterior Finish: Standard Door Installation	1
Deer Valley	CRP 105AC-Exterior Finish: Running Trim	1
Deer Valley	CRP 105AG-Exterior Finish: Door Hardware	1
Deer Valley	CRP 105AI-Interior Finish: Metal Partitions	1
Deer Valley	CRP 105AJ-Interior Finish: Soffit Panel	1
Deer Valley	CRP 106AA-Interior Systems: Metal Frame Walls	1
Deer Valley	CRP 106AB-Interior Systems: Dry Wall Applications	1
Deer Valley	CRP 106AH-Interior Systems: Dry Wall Estimation of Material	1
Deer Valley	CRP 106AK-Interior Systems: Suspended Lay-in Ceilings	1
Deer Valley	CRP 199 AA-Special Projects	1
Deer Valley	CRP 199 AB-Special Projects	2
Deer Valley	CRP 199 AC-Special Projects	3
Deer Valley	CRP 200 WA-Cooperative Education	1
Deer Valley	CRP 200 WB-Cooperative Education	2
Deer Valley	CRP 200 WC-Cooperative Education	3
Deer Valley	CRP 200 WD-Cooperative Education	4

SCOTTSDALE COMMUNITY COLLEGE

High School District	College Courses	Credits
Scottsdale	ACC 107-Applied Accounting	4
Scottsdale	CIS 105-Survey of Computer Information Systems	3
Scottsdale	ELE 100 Concepts of Electricity and Electronics	3

Scottsdale	ELE 101-Beginning Algebra for Technology	3
Scottsdale	ELE 173-Fabrication Techniques	2
Scottsdale	OAS 101-Typing I	3
Scottsdale	OAS 102-Typing II	3
Scottsdale	OAS 115-Alphabetic Shorthand I	3
Scottsdale	OAS 117-Alphabetic Shorthand II	3
Scottsdale	OAS 261-Word Processing Applications	3
Scottsdale	TCM 180-Television Techniques	4
Paradise Valley	ECH 214-Preschool Education	3
Scottsdale	ECH 214-Preschool Education	3

Current articulation agreements which involve **Occupational Credential Acceptance** include:

* **GateWay Community College** grants first year NUR credits to graduates of the **Phoenix Union High School District** Practical Nursing Program who have a valid Practical Nursing License.

* The **Glendale Community College** Nursing Program grants first semester NUR credits to graduates of the **Phoenix Union High School District** Practical Nursing Program who have a valid license.

* **Mesa Community College** grants first year NUR credits to graduates of the **Phoenix Union High School District** Practical Nursing Program. To receive the credit, graduates must have valid Practical Nursing Licenses.

* **Phoenix College** grants first year NUR credits to graduates of the **Phoenix Union High School District** Nursing Program who possess a valid Practical Nursing License.

* **Scottsdale Community College** grants first year NUR credits to graduates of the **Phoenix Union High School District** Practical Nursing Program who possess a valid Practical Nursing License.

Current articulation agreements which involve **Resource Coordination** include:

* **Glendale Community College** uses the Vocational Center of the **Deer Valley Unified District** to teach autobody, cabinetmaking, graphic arts, machine shop, photography, and welding.

* **Glendale Community College** uses the **Deer Valley Vo-Tech Center** Machine Shop to teach four courses for the GCC Manufacturing Technology Program. Students from the college and the Deer Valley Unified School District study Machine Shop Theory I, Machine Tools and Welding I and II together. The instructor is paid by Glendale Community College. High school students are eligible for up to 12 hours of course credit. College students pay tuition and receive regular college credit.

* **Glendale Community College** uses classroom space at **Deer Valley High School** to teach more than fifteen different college courses.

* **Phoenix College** is using **Metro Tech VIP's Graphics** Print Shop to teach two courses in the college's Visual Communications program. High School students and college students study coursework together in the Print Shop. The instructor is a dually certified Metro Tech VIP teacher. Phoenix College also uses the Print Shop to teach additional courses in the Visual Communications program. In all cases, college students pay tuition and receive college credit.

* **Phoenix College** is using **Metro Tech VIP's Welding Lab** to teach three courses in Welding. High school students and college students study coursework together in the welding lab. The instructor is a dually certified Metro Tech VIP teacher. Phoenix College also uses the Welding Lab to teach additional courses in Welding. The instructor is a dually certified Metro Tech VIP teacher. In all cases, college students pay tuition and receive college credit.

* **Phoenix College** uses additional **Metro Tech VIP laboratory** facilities to offer courses in Auto Body Repair, Auto Upholstery, Building Construction, Commercial Bulding Maintenance, Computer Aided Drafting, Electrical Wiring, Furniture Upholstery, Residential Plumbing, Travel Agent Technology and Woodworking. In many areas, the instructor is dually certified. College students pay tuition and receive college credit.

* **Phoenix College** uses **Phoenix Union Metro Tech VIP's Machine Shop** to teach two courses in the college's General Technology Program. High school students and college students study coursework in the Metro Tech VIP Machine Shop together. The instructor is a dually certified Metro Tech VIP teacher. High school

students are eligible for up to three course credits and college students pay tuition and receive college credit. Phoenix College also uses the Metro Tech VIP Machine Shop to tech two additional courses in the General Technology program and employs a dually certified Metro Tech VIP instructor. College students pay tuition and receive college credit.

* **Phoenix College** and **Metro Tech VIP** students study coursework in the college's **Food Service** Administration Program together at the Metro Tech VIP culinary arts kitchen and dining room. High school students may receive up to eight course credits in the Food Service Administration Program at Phoenix College. College students pay tuition and receive college credit. Phoenix College also uses the Metro Tech VIP culinary arts kitchen and dining room to teach additional courses in the college's Food Service Administration Program.

* **Phoenix College** teaches DAE/DHE 101 - Basic Operatory Procedures to both Phoenix Union Metro Tech VIP and college students during the day at the college **paradental clinic.** The instructor is employed by Phoenix College. High school and college students pay tuition and receive college credit.

* **Phoenix College** uses the **Best Western International Hotels** computer equipment in the **Metro Tech VIP's** Resort Occupational Lab to teach HHM 100 - Reservations Sales Training. The instructor is certified by Best Western, Metro Tech VIP, and Phoenix College. College students pay tuition and receive college credit and are giving preferential hiring for part-time employment with Best Western Hotels upon successful completion of the course.

* **Phoenix College** provides laboratory techniques for **Scottsdale Unified High School District** students learning the course equivalent to PLB 105 - **Phlebotomy** - 4 credits (lecture portion). These students also enroll at Phoenix College in PLB 105 - Phlebotomy - 3 credits (clinical portion). The high school students pay tuition and receive college credit for the lab portion and receive course credit for the lecture portion upon enrollment at Phoenix College.

* **Scottsdale Community College** is using **Scottsdale Unified School District** facilities to teach courses

in the Culinary Arts. A Scottsdale Community College instructor teaches Gourmet Cooking in the Scottsdale Vocational Technical Center Culinary Arts kitchen and restaurant.

* **Scottsdale Community College** is using **Scottsdale Unified School District** facilities to teach courses in the Motion Picture/Television Production Programs. The Scottsdale Vocational Technical Center Television Production Laboratory is used to teach a Television Techniques course by a Scottsdale Community College instructor. High school students receive course credit upon admission to the college. College students pay tuition and receive college credit. Scottsdale Vo Tech will be sending Electronics students to Scottsdale Community College to learn Electronics.

* **Phoenix Metro Tech** shares resources with the **Arizona State Employee Federal Credit Union.** Metro Tech provides space, utilities, and equipment for an on-site credit union. The Arizona State Employee Federal Credit Union (ASEFCU) staffs the credit union and provides advanced training for Metro Tech banking students. At the end of the year, ASEFCU hires some graduates of the program to work in their credit unions.

* **Phoenix Metro Tech** cooperatively shares resources with **Carlos Valenzuela Academy**, a private school, to conduct cosmetology training at Metro Tech. Metro Tech provides facilities and equipment. The instructor is a highly skilled cosmetologist who owns and operates his own school at another location.

* **The U.S. Department of Labor's Bureau of Apprenticeship and Training(BAT), Deer Valley School District, and Rio Salado Community College** are partners in an apprenticeship articulation project. The purpose of the project is to link vocational education training to apprenticeship training. High school students (usually seniors) take skills training at the Vo-Tech Center for half of the school day and then go out to work for an employer as an Industrial Cooperative Education participant. The training provided by the employer meets apprenticeship standards. Deer Valley Carpentry students also receive credit from the Carpenter's Apprenticeship Program and Rio Salado for performance that meets the standards of the apprenticeship

program. Rio Salado grants college credit for mastery of the competencies which comprise an equivalent college course.

* **Rio Salado Community College** is using training facilities belonging to the **Carpenters, Sheetmetal, Pipefitter and Electricians Unions** for Apprenticeship Training. Rio Salado pays for rent, supplies and instructors. The instructors are provided by the Unions. The Carpenters can enter, complete, and exit year-round because the curriculum is organized into 30 open entry/open exit modules. Rio Salado also rents space at Phoenix Metro Tech for Carpentry, Pipefitting, and Sheetmetal training.

* **Peoria Unified School District** students complete courses in Electronics, Building trades and Photography at **Deer Valley Vo Tech Center.**

Current agreements which involve 2+2 **Articulation** include:

* **Mesa Community College** and **Mesa VoTech** have developed a 2+2 Machine Trades program.

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

RANKED IN DESCENDING ORDER

OES CODE	OES OCCUPATIONAL TITLE	EMPLOYMENT			JOB OPPORTUNITIES	GROWTH	
		1989	1990	1994	1989-94	1989-94	
49011	SALESPERSONS, RETAIL	34,893	35,875	42,363	12,342	7,470	21%
19005	GENERAL MANAGERS AND TOP EXECUTIVES	25,801	26,645	31,926	10,058	6,125	24%
55347	GENERAL OFFICE CLERKS	20,515	21,019	25,201	10,653	4,686	23%
55100	SECRETARIES	19,927	20,233	24,334	10,897	4,407	22%
65008	WAITERS & WAITRESSES	19,699	20,560	25,612	12,194	5,913	30%
55338	BOOKKEEPING, ACCOUNTING, AND AUDITING CLERKS	18,290	18,877	22,563	9,251	4,273	23%
65041	COMBINED FOOD PREPARATION AND SERVICE WORKERS	17,057	17,694	21,751	9,027	4,694	28%
49023	CASHIERS	16,535	17,394	20,686	8,915	4,151	25%
49008	OTHER SALES REPRESENTATIVES, EXCEPT RETAIL	16,065	16,538	19,751	7,019	3,686	23%
67005	JANITORS & CLEANERS, EXCEPT MAIDS & HOUSEKEEPING	15,286	15,495	18,973	6,674	3,687	24%
32502	REGISTERED NURSES	13,880	14,636	17,725	7,924	3,845	28%
31305	TEACHERS, ELEMENTARY SCHOOL	13,176	11,691	15,191	5,234	2,015	15%
98999	ALL OTHER HELPERS, LABORERS, & MATL. MOVERS, HAND	12,086	12,477	14,850	4,190	2,764	23%
51002	FIRST LINE SUPERVISORS-CLERICAL & ADMIN. SUPPORT	11,440	11,789	14,021	4,478	2,581	23%
41002	FIRST LINE SUPERVISORS & MGR./SUPERVISORS - SALES	11,082	11,481	13,637	4,255	2,555	23%
65038	FOOD PREPARATION WORKERS	9,455	9,772	12,165	5,107	2,710	29%
97105	TRUCK DRIVERS, LIGHT-INCL. DELIVERY & ROUTE WKRS.	9,245	9,516	11,161	2,520	1,916	21%
63047	GUARDS & WATCH GUARDS	8,710	9,008	10,932	2,684	2,222	26%
97102	TRUCK DRIVERS, HEAVY OR TRACTOR TRAILER	8,403	8,615	9,906	2,063	1,503	18%
98700	FREIGHT, STOCK, & MATERIAL MOVERS, HAND	8,345	8,772	10,377	3,135	2,032	24%
55305	RECEPTIONISTS & INFORMATION CLERKS	8,342	8,698	10,475	4,562	2,133	26%
85132	MAINTENANCE REPAIRERS, GENERAL UTILITY	7,997	8,256	9,968	2,650	1,971	25%
22126	ELECTRICAL & ELECTRONIC ENGINEERS	7,916	8,145	9,889	2,412	1,973	25%
58023	STOCK CLERKS- STOCKROOM, WAREHOUSE OR STORAGE YARD	7,771	8,002	9,504	2,710	1,733	22%
93114	ELECTRICAL/ELECTRONIC EQUIP. ASSEMBLERS -PRECISIO	7,669	7,851	9,758	4,172	2,089	27%
31308	TEACHERS, SECONDARY SCHOOL	7,336	6,507	8,457	2,285	1,121	15%
22505	ELECTRICAL & ELECTRONIC ENGINEERING TECHS.	7,054	7,246	8,849	2,204	1,795	25%
87102	CARPENTERS	6,665	6,862	8,517	2,705	1,852	28%
21114	ACCOUNTANTS AND AUDITORS	6,579	6,780	8,083	2,619	1,504	23%
85302	AUTOMOTIVE MECHANICS	6,549	6,713	7,957	1,914	1,408	21%
65014	DINING ROOM/CAFETERIA ATTENDTS. & BARTDR. HELPERS	6,386	6,617	8,300	2,320	1,914	30%
19999	ALL OTHER MANAGERS & ADMINISTRATORS	6,381	6,555	7,812	2,368	1,431	22%
67002	MAIDS & HOUSEKEEPING CLEANERS	6,316	6,724	8,627	4,575	2,311	37%
39999	ALL OTHER PROFESSIONAL, PARAPROFESSIONAL, & TECHN	6,256	6,401	7,528	2,055	1,272	20%
49021	STOCK CLERKS, SALES FLOOR	6,048	6,404	7,572	1,955	1,524	25%
93956	ASSEMBLERS/FABRICATORS -EX. MACH., ELECT., PRECI.	5,812	5,987	6,905	1,837	1,093	19%
65026	COOKS, RESTAURANT	5,776	6,040	7,539	2,989	1,763	31%
56017	DATA ENTRY KEYERS, EXCEPT COMPOSING	5,751	5,942	7,095	2,101	1,344	23%
58028	TRAFFIC, SHIPPING, & RECEIVING CLERKS	5,738	5,865	6,752	1,716	1,014	18%
66008	NURSING AIDES, ORDERLIES, AND ATTENDANTS	5,685	6,011	7,285	3,326	1,600	28%
31314	TEACHERS & INSTRUCTORS, VOCATIONAL ED. & TRAINING	5,313	4,788	6,139	1,855	826	16%
65005	BARTENDERS	5,259	5,473	6,805	2,503	1,546	29%
13002	FINANCIAL MANAGERS	5,127	5,296	6,348	2,145	1,221	24%
21999	ALL OTHER MANAGEMENT SUPPORT WORKERS	5,068	5,188	6,148	1,825	1,080	21%
59999	ALL OTHER CLERICAL & ADMINISTRATIVE SUPPORT WKRS	4,955	5,010	5,933	1,110	978	20%
55308	TYPISTS	4,805	4,908	5,773	2,667	968	20%
53905	TEACHER AIDES & EDUCATIONAL ASSISTANTS, CLERICAL	4,589	4,138	5,331	1,811	742	16%
65017	COUNTER ATTENDANTS-LUNCHROOM, COFFEE SHOP, & CAFE	4,560	4,618	5,730	2,549	1,170	26%

APPENDIX D
MARICOPA COUNTY OCCUPATIONAL
EMPLOYMENT AND DEMAND

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

RANKED IN DESCENDING ORDER

OES CODE	OES OCCUPATIONAL TITLE	EMPLOYMENT			JOB OPPORTUNITIES	GROWTH	
		1989	1990	1994	1989-94	1989-94	
79014	GARDENERS & GROUNDSKEEPERS, EXC. FARM	4,514	4,648	5,664	2,077	1,150	25%
68005	HAIRDRESSERS, HAIRSTYLISTS, & COSMETOLOGISTS	4,439	4,569	5,476	2,742	1,037	23%
98902	HAND PACKERS & PACKAGERS	4,310	4,559	5,358	1,560	1,048	24%
49005	SALES REPS., SCIENTIFIC PROD. & SERV. EXC. RETAIL	4,262	4,386	5,280	1,606	1,018	24%
22514	DRAFTERS	4,193	4,315	5,149	1,303	956	23%
87202	ELECTRICIANS	4,143	4,340	5,287	1,535	1,144	28%
81008	FIRST LINE MGRS./SUPERS.- PRODUCTION & OPERATIVES	4,136	4,244	4,947	1,236	811	20%
53102	TELLERS	4,124	4,270	5,089	2,311	965	23%
25102	SYSTEMS ANALYSTS, ELECTRONIC DATA PROCESSING	3,927	4,037	4,810	1,036	883	22%
28108	LAWYERS	3,863	3,965	4,697	1,265	834	22%
32505	LICENSED PRACTICAL NURSES	3,788	3,986	4,816	2,318	1,028	27%
61000	FIRST LINE SUPERVISORS & MGR./SUPERS. - SERVICE	3,747	3,801	4,677	1,931	930	25%
89108	MACHINISTS	3,597	3,717	4,310	1,060	713	20%
81002	FIRST LINE MGRS./SUPERS.- MECHS./INSTALLERS/REPRS	3,540	3,614	4,238	1,199	698	20%
55199	ALL OTHER SECRETARIES	3,481	3,629	4,309	1,993	828	24%
57102	SWITCHBOARD OPERATORS	3,466	3,601	4,341	2,138	875	25%
32102	PHYSICIANS & SURGEONS	3,419	3,627	4,376	1,518	957	28%
15026	FOOD SERVICE & LODGING MANAGERS	3,414	3,554	4,426	1,679	1,012	30%
22135	MECHANICAL ENGINEERS	3,385	3,474	4,094	885	709	21%
49999	ALL OTHER SALES AND RELATED WORKERS	3,381	3,455	4,073	1,174	692	20%
55102	LEGAL SECRETARIES	3,364	3,465	4,157	1,916	793	24%
31311	TEACHERS, SPECIAL EDUCATION	3,263	2,894	3,761	1,290	498	15%
53123	ADJUSTMENT CLERKS	3,242	3,352	3,938	1,621	696	21%
89999	ALL OTHER PRECISION WORKERS	3,151	3,256	3,891	1,079	740	23%
13011	MARKETING, ADVERTISING, & PUBLIC RELATIONS MGRS.	3,147	3,250	3,876	1,146	729	23%
85999	ALL OTHER MECHANICS, INSTALLERS, AND REPAIRERS	3,143	3,207	3,831	916	688	22%
92902	ELECTRONIC SEMICONDUCTOR PROCESSORS	3,132	3,205	4,035	1,333	903	29%
81005	FIRST LINE MGRS./SUPERS.- CONST. TRADES & EXTRACT.	3,041	3,139	3,876	1,357	835	27%
49017	COUNTER & RENTAL CLERKS	2,981	3,087	3,714	1,550	733	25%
87502	PLUMBERS, PIPEFITTERS, AND STEAMFITTERS	2,924	3,058	3,730	1,087	806	28%
83005	PRODUCTION INSPECTORS, TESTERS, GRADERS, & SORTERS	2,830	2,912	3,449	1,145	619	22%
63014	POLICE PATROL OFFICERS	2,819	2,874	3,260	593	441	16%
68038	CHILD CARE WORKERS	2,756	2,770	3,372	1,603	616	22%
85311	BUS & TRUCK MECHANICS, & DIESEL ENGINE SPECIALIST	2,734	2,796	3,280	749	546	20%
49026	NEWS/STREET VENDORS, PHONE SOLIC., DOOR-TO-DOOR	2,685	2,779	3,349	1,439	664	25%
25105	COMPUTER PROGRAMMERS	2,665	2,729	3,243	711	578	22%
55311	TYPISTS, WORD PROCESSING EQUIPMENT	2,639	2,712	3,253	1,083	614	23%
53121	LOAN & CREDIT CLERKS	2,606	2,700	3,218	1,383	612	23%
65002	HOSTS/HOSTESSES-RESTAURANT, LOUNGE, COFFEE SHOP	2,583	2,693	3,352	1,589	769	30%
49014	SALESPERSONS, PARTS	2,555	2,619	3,120	1,037	565	22%
87311	CONCRETE AND TERRAZZO FINISHERS	2,543	2,668	3,285	919	742	29%
43014	SALES AGTS., SECURITIES/COMMODITIES/FIN. SERVICES	2,540	2,631	3,136	971	596	23%
98905	VEHICLE WASHERS AND EQUIPMENT CLEANERS	2,538	2,602	3,095	886	557	22%
65032	COOKS, SPECIALTY FAST FOOD	2,536	2,630	3,240	1,237	704	28%
55323	ORDER CLERKS-MATERIALS, MERCHANDISE, & SERVICE	2,530	2,593	3,080	1,216	550	22%
56011	COMPUTER OPERATORS, EXC. PERIPHERAL EQUIPMENT	2,505	2,572	3,068	861	563	22%
97805	SERVICE STATION ATTENDANTS	2,462	2,522	2,988	822	526	21%
21511	PERSONNEL, TRAINING, & LABOR RELATIONS SPECIALISTS	2,435	2,486	2,948	788	513	21%

MARICOPA

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		1989	1990	1994	1989-94	1989-94	
58008	PRODUCTION, PLANNING, AND EXPEDITING CLERKS	2,424	2,487	2,954	1,217	530	22%
85902	HEATING, AIR COND., & REFRIG. MECHS. & INSTALLERS	2,408	2,521	3,052	857	644	27%
57305	MAIL CARRIERS, POSTAL SERVICE	2,390	2,394	2,549	355	159	7%
93999	ALL OTHER HAND WORKERS	2,358	2,427	2,836	763	478	20%
87402	PAINTERS & PAPERHANGERS - CONST. & MAINTENANCE	2,343	2,449	3,006	993	663	28%
13017	ENGINEERING, MATH, & NATURAL SCIENCES MANAGERS	2,306	2,369	2,865	898	559	24%
55344	BILLING, COST & RATE CLERKS	2,287	2,375	2,823	1,161	536	23%
63099	ALL OTHER PROTECTIVE SERVICE WORKERS	2,194	2,185	2,680	871	486	22%
15023	TRANSPORT., COMMUN., & UTILITIES OPERATIONS MGRS.	2,191	2,237	2,530	448	339	15%
15011	PROPERTY & REAL ESTATE MANAGERS & ADMINISTRATORS	2,187	2,289	2,754	880	567	26%
15017	CONSTRUCTION MANAGERS	2,175	2,234	2,785	833	610	28%
31302	TEACHERS, PRESCHOOL & KINDERGARTEN	2,159	2,143	2,620	1,022	461	21%
69999	ALL OTHER SERVICE WORKERS	2,127	2,117	2,641	1,076	514	24%
58026	ORDER FILLERS, WHOLESALE & RETAIL SALES	2,104	2,176	2,604	639	500	24%
83002	PRECISION INSPECTORS, TESTERS, AND GRADERS	2,093	2,151	2,583	884	490	23%
53508	BILL & ACCOUNT COLLECTORS	2,090	2,163	2,587	857	497	24%
66005	MEDICAL ASSISTANTS	2,073	2,204	2,674	1,255	601	29%
97956	OPERATING ENGINEERS	2,035	2,098	2,534	684	499	25%
21308	PURCHASING AGENTS, EXC. WHOLESALE, RETAIL, & FARM	2,004	2,048	2,413	634	409	20%
22128	INDUSTRIAL ENGINEERS, EXCEPT SAFETY	2,002	2,053	2,448	589	446	22%
15014	INDUSTRIAL PRODUCTION MANAGERS	1,983	2,031	2,407	772	424	21%
93914	WELDERS AND CUTTERS	1,975	2,029	2,327	519	352	18%
97947	INDUSTRIAL TRUCK & TRACTOR OPERATORS	1,973	2,038	2,382	519	409	21%
31117	GRADUATE ASSISTANTS, TEACHING	1,918	1,701	2,211	544	293	15%
21108	LOAN OFFICERS AND COUNSELORS	1,912	1,979	2,352	764	440	23%
43008	SALES AGENTS, REAL ESTATE	1,909	1,983	2,414	993	505	26%
21902	COST ESTIMATORS	1,868	1,938	2,378	1,042	510	27%
92998	ALL OTHER MACHINE OPERATORS & TENDERS	1,854	1,935	2,299	678	445	24%
65028	COOKS, INSTITUTION OR CAFETERIA	1,838	1,857	2,279	811	441	24%
58099	ALL OTHER MATERIAL RECORDING/SCHEDULING/DISTRIB.	1,835	1,874	2,207	633	372	20%
43002	SALES AGENTS & PLACERS, INSURANCE	1,814	1,888	2,261	683	447	25%
61099	ALL OTHER SERVICE SUPERVISORS & MGR./SUPERVISORS	1,811	1,888	2,306	990	495	27%
63017	CORRECTION OFFICERS & JAILERS	1,787	1,822	2,068	700	281	16%
31399	ALL OTHER TEACHERS AND INSTRUCTORS	1,786	1,611	2,076	762	290	16%
53805	RESERVATION & TRANSPORTATION TICKET AGENTS	1,781	1,823	2,041	560	260	15%
58011	TRANSPORTATION AGENTS	1,769	1,811	2,022	553	253	14%
55321	FILE CLERKS	1,767	1,822	2,175	1,045	408	23%
22121	CIVIL ENGINEERS, INCLUDING TRAFFIC	1,767	1,810	2,126	594	359	20%
32999	ALL OTHER HEALTH PARA/PROFESSIONALS & TECHNS.	1,756	1,825	2,194	794	438	25%
93905	ELECTRICAL & ELECTRONIC ASSEMBLERS	1,725	1,770	2,197	703	472	27%
22599	ALL OTHER ENGINEERING & RELATED TECHS.	1,701	1,746	2,084	561	383	23%
55332	INTERVIEWING CLERKS, EXCEPT PERSONNEL AND WELFARE	1,672	1,746	2,105	811	433	26%
58005	DISPATCHERS- EXCEPT POLICE, FIRE, AND AMBULANCE	1,670	1,711	1,981	429	311	19%
89311	CABINETMAKERS AND BENCH CARPENTERS	1,668	1,723	2,053	525	385	23%
92974	PACKAGING & FILLING MACHINE OPERATORS & TENDERS	1,641	1,686	1,844	400	203	12%
87808	ROOFERS	1,637	1,730	2,125	570	488	30%
89132	SHEET METAL WORKERS	1,636	1,695	1,955	417	319	19%
98102	MECHANIC & REPAIRER HELPERS	1,578	1,619	1,892	507	314	20%

MARICOPA

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		1989	1990	1994	1989-94	1989-94	
97117	DRIVER/SALES WORKERS	1,556	1,594	1,819	362	263	17%
92717	SEWING MACHINE OPERATORS, GARMENT	1,556	1,595	1,694	391	138	9%
81099	ALL OTHER FIRST LINE MGRS./SUPRS.-MAIN./PROD./CON	1,540	1,587	1,906	651	366	24%
66011	HOME HEALTH AIDES	1,537	1,602	1,933	662	396	26%
68014	AMUSEMENT & RECREATION ATTENDANTS	1,536	1,587	1,904	641	368	24%
13014	ADMINISTRATIVE SERVICES MANAGERS	1,518	1,562	1,860	539	342	23%
97989	ALL OTHER TRANSPORT./MATL. MOVING EQUIP. OPERS.	1,511	1,573	1,901	515	390	26%
43017	SALES AGENTS, SELECTED BUSINESS SERVICES	1,509	1,562	1,839	635	330	22%
22302	ARCHITECTS, EXCEPT LANDSCAPE AND MARINE	1,502	1,548	1,857	561	355	24%
87108	DRYWALL INSTALLERS	1,500	1,584	1,946	514	446	30%
22102	AERONAUTICAL AND ASTRONAUTICAL ENGINEERS	1,494	1,530	1,786	373	292	20%
85305	AUTOMOTIVE BODY AND RELATED REPAIRERS	1,483	1,524	1,818	473	335	23%
97111	BUS DRIVERS, SCHOOL	1,481	1,330	1,712	429	231	16%
15005	EDUCATION ADMINISTRATORS	1,452	1,331	1,691	499	239	16%
43021	TRAVEL AGENTS	1,450	1,485	1,659	433	209	14%
21199	ALL OTHER FINANCIAL SPECIALISTS	1,431	1,467	1,739	523	308	22%
57311	MESSENGERS	1,423	1,476	1,769	546	346	24%
31299	ALL OTHER POSTSECONDARY TEACHERS	1,417	1,257	1,634	423	217	15%
92726	LAUNDRY & DRYCLEANING MACH. OPERS., EXC. PRESSING	1,405	1,475	1,828	648	423	30%
87111	TAPERS	1,402	1,483	1,821	614	419	30%
53808	HOTEL DESK CLERKS	1,394	1,492	1,978	1,008	584	42%
27308	SOCIAL SERVICE TECHNICIANS	1,390	1,427	1,657	463	267	19%
66002	DENTAL ASSISTANTS	1,367	1,451	1,762	952	395	29%
53314	INSURANCE POLICY PROCESSING CLERKS	1,362	1,419	1,702	746	340	25%
13008	PURCHASING MANAGERS	1,354	1,392	1,672	438	318	23%
87302	BRICK MASONS	1,353	1,422	1,756	511	403	30%
32517	PHARMACISTS	1,351	1,413	1,697	671	346	26%
27311	RECREATION WORKERS	1,314	1,354	1,598	512	284	22%
65035	COOKS, SHORT ORDER	1,309	1,365	1,683	615	374	29%
65011	FOOD SERVERS, OUTSIDE	1,306	1,393	1,771	682	465	36%
87317	PLASTERERS & STUCCO MASONS	1,303	1,376	1,691	452	388	30%
55105	MEDICAL SECRETARIES	1,287	1,370	1,663	816	376	29%
57308	CLERKS, POSTAL SERVICE	1,282	1,284	1,367	270	85	7%
21102	UNDERWRITERS	1,279	1,331	1,594	631	315	25%
34038	DESIGNERS, EXC. INTERIOR DESIGNERS	1,270	1,310	1,591	439	321	25%
85705	DATA PROCESSING EQUIPMENT REPAIRERS	1,266	1,311	1,586	373	320	25%
85799	ALL OTHER ELECT. MECHS., INSTALLERS, & REPAIRERS	1,254	1,300	1,552	450	298	24%
15008	MEDICINE & HEALTH SERVICES MANAGERS	1,249	1,318	1,585	584	336	27%
32902	MEDICAL AND CLINICAL LABORATORY TECHNOLOGISTS	1,226	1,299	1,563	663	337	27%
13005	PERSONNEL, TRAINING, & LABOR RELATIONS MANAGERS	1,213	1,247	1,488	456	275	23%
67099	ALL OTHER CLEANING/BLDG. SERVICE EXC. PRIV. HOUSE	1,210	1,257	1,564	588	354	29%
21911	COMPLIANCE & ENFORCEMENT INSPECTORS, EXC. CONST.	1,199	1,218	1,371	336	172	14%
55341	PAYROLL & TIMEKEEPING CLERKS	1,194	1,233	1,484	527	290	24%
92512	OFFSET LITHOGRAPHIC PRESS SETTERS & SET-UP OPERS.	1,191	1,230	1,471	379	280	24%
65021	BAKERS, BREAD & PASTRY	1,177	1,259	1,515	598	338	29%
93111	ELECTROMECHANICAL EQUIPMENT ASSEMBLERS -PRECISION	1,157	1,188	1,424	573	267	23%
98319	HELPERS -ALL OTHER CONSTRUCTION TRADES	1,155	1,217	1,474	460	319	28%
91117	MACHINE TOOL CUTTING OPERS./TENDERS-METAL & PLAST	1,147	1,177	1,365	308	218	19%

MARICOPA

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		1989	1990	1994	1989-94	1989-94	
65023	BUTCHERS AND MEAT CUTTERS	1,136	1,218	1,442	429	306	27%
53311	INSURANCE CLAIMS CLERKS	1,130	1,175	1,394	596	264	23%
57302	MAIL CLERKS, EXC. MAIL MACH. OPERS. & POSTAL SERV	1,116	1,144	1,349	453	233	21%
55314	PERSONNEL CLERKS, EXCEPT PAYROLL AND TIMEKEEPING	1,115	1,135	1,327	583	212	19%
65000	FOOD & BEVERAGE SERVICE OCCUPATIONS	1,112	1,150	1,390	548	278	25%
53302	INSURANCE ADJUSTERS, EXAMINERS, AND INVESTIGATORS	1,112	1,154	1,374	409	262	24%
85314	MOBILE HEAVY EQUIPMENT MECHANICS, EXCEPT ENGINES	1,107	1,142	1,366	368	259	23%
65099	ALL OTHER FOOD SERVICE WORKERS	1,082	1,108	1,348	531	266	25%
68023	BAGGAGE PORTERS & BELLHOPS	1,078	1,131	1,405	403	327	30%
28399	ALL OTHER LEGAL ASSISTANTS/TECHNS., EXC. CLERICAL	1,077	1,104	1,271	502	194	18%
98705	REFUSE COLLECTORS	1,076	1,100	1,238	226	162	15%
31317	INSTRUCTORS, NONVOCATIONAL EDUCATION	1,068	1,078	1,310	381	242	23%
55335	CUSTOMER SERVICE REPRESENTATIVES, UTILITIES	1,058	1,084	1,211	456	153	14%
22511	MECHANICAL ENGINEERING TECHNICIANS/TECHNOLOGISTS	1,022	1,049	1,234	238	212	21%
21302	WHOLESALE & RETAIL BUYERS, EXC. FARM PRODUCTS	1,017	1,049	1,244	394	227	22%
98313	HELPERS -ELECTRICIANS/POWERLINE TRANS. INSTALLERS	1,013	1,062	1,269	379	256	25%
31321	INSTRUCTORS & COACHES, SPORTS & PHYSICAL TRAINING	1,008	1,015	1,264	386	256	25%
98312	HELPERS -CARPENTERS & RELATED	1,003	1,025	1,288	383	285	28%
61005	POLICE AND DETECTIVE SUPERVISORS	998	1,016	1,151	205	153	15%
92908	PHOTOGRAPHIC PROCESSING MACHINE OPERS. & TENDERS	985	1,026	1,244	393	259	26%
27302	SOCIAL WORKERS, MEDICAL & PSYCHIATRIC	984	1,035	1,251	508	267	27%
22502	CIVIL ENGINEERING TECHNICIANS & TECHNOLOGISTS	949	972	1,142	317	193	20%
97108	BUS DRIVERS	933	956	1,069	265	136	15%
67000	CLEANING & BUILDING SERVICE	930	953	1,070	314	140	15%
85110	MACHINERY MAINTENANCE MECHANICS	928	953	1,094	226	166	18%
43011	APPRAISERS, REAL ESTATE	899	932	1,095	397	196	22%
22521	SURVEYING & MAPPING TECHNICIANS AND TECHNOLOGISTS	891	913	1,064	225	173	19%
97938	GRADER, DOZER, & SCRAPER OPERATORS	888	925	1,158	391	270	30%
81011	FIRST LINE MGRS./SUPERS.- TRANSPORTATION OPERS.	885	902	1,019	291	134	15%
92721	SEWING MACHINE OPERATORS, NON-GARMENT	883	906	1,009	269	126	14%
55328	STATISTICAL CLERKS	875	913	1,083	457	208	24%
28305	PARALEGAL PERSONNEL	869	893	1,062	299	193	22%
32105	DENTISTS	860	916	1,112	343	252	29%
97317	RAILROAD BRAKE, SIGNAL & SWITCH OPERATORS	859	879	980	211	121	14%
85323	AIRCRAFT MECHANICS	859	875	978	162	119	14%
27305	SOCIAL WORKERS, EXC. MEDICAL & PSYCHIATRIC	849	866	1,021	371	172	20%
43023	SALES AGENTS, ADVERTISING	846	870	1,014	291	168	20%
93902	MACHINE ASSEMBLERS	821	848	998	284	177	22%
91105	LATHE/TURNING MACH. SET-UP OPERS.- METAL & PLASTI	818	836	975	286	157	19%
53902	LIBRARY ASSISTANTS & BOOKMOBILE DRIVERS	818	755	949	211	131	16%
91114	GRINDING & BUFF. MACH. SET-UP OPRS.-METAL & PLAST	816	834	968	222	152	19%
32905	MEDICAL & CLINICAL LABORATORY TECHNICIANS	813	864	1,049	398	236	29%
32508	EMERGENCY MEDICAL TECHNICIANS	813	838	953	305	140	17%
32908	DENTAL HYGIENISTS	810	862	1,047	526	237	29%
68026	FLIGHT ATTENDANTS	806	825	921	460	115	14%
53105	NEW ACCOUNTS CLERKS	804	832	991	495	187	23%
98311	HELPERS -BRICK & STONE MASONS, & HARD TILE SETTER	799	842	1,036	318	237	30%
98502	MACHINE FEEDERS & OFFBEARERS	797	821	950	242	153	19%

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

RANKED IN DESCENDING ORDER

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		1989	1990	1994	1989-94	1989-94	
87814	STRUCTURAL METAL WORKERS	796	844	1,035	298	239	30%
85953	TIRE REPAIRERS AND CHANGERS	793	810	959	259	166	21%
25108	COMPUTER PROGRAMMER AIDES	790	807	959	256	169	21%
31502	LIBRARIANS, PROFESSIONAL	786	738	911	348	125	16%
98000	HELPERS, LABORERS, & MATERIAL MOVERS, HAND	780	709	912	219	132	17%
34035	ARTISTS AND RELATED WORKERS	771	797	955	344	184	24%
21105	CREDIT ANALYSTS	767	793	950	407	183	24%
97702	AIRCRAFT PILOTS AND FLIGHT ENGINEERS	759	775	867	143	108	14%
85702	TELEPHONE & CABLE TV LINE INSTALLERS & REPAIRERS	754	777	913	199	159	21%
49002	SALES ENGINEERS	750	768	934	238	184	25%
31514	VOCATIONAL & EDUCATIONAL COUNSELORS	749	686	875	251	126	17%
87114	LATHERS	747	790	970	278	223	30%
85502	CENTRAL OFFICE AND PBX INSTALLERS AND REPAIRERS	744	763	850	164	106	14%
97899	ALL OTHER TRANSPORTATION AND RELATED WORKERS	743	751	860	207	117	16%
85926	OFFICE MACHINE & CASH REGISTER SERVICERS	732	755	905	238	173	24%
56014	PERIPHERAL EDP EQUIPMENT OPERATORS	710	733	853	352	143	20%
34002	WRITERS AND EDITORS	694	708	845	292	151	22%
22199	ALL OTHER ENGINEERS	690	714	842	188	152	22%
85723	ELECTRICAL POWERLINE INSTALLERS AND REPAIRERS	686	703	782	153	96	14%
98314	HELPERS -PAINTERS, PAPERHANGERS, & PLASTERERS	683	722	888	274	205	30%
63008	FIRE FIGHTERS	683	695	785	138	102	15%
32921	RADIOLOGIC TECHNICIANS	666	706	854	347	188	28%
43099	ALL OTHER SALES REPS. & SALESPERSONS, SERVICE	661	692	833	278	172	26%
53117	CREDIT CHECKERS	657	677	809	315	152	23%
87802	INSULATION WORKERS	655	692	848	214	193	29%
56002	BILLING, POSTING, & CALCULATING MACHINE OPERATORS	651	674	805	308	154	24%
92728	PRESSING MACHINE OPERS -TEXTILE, GARMENTS, & REL	648	666	791	252	143	22%
92543	PRINTING PRESS MACHINE OPERATORS AND TENDERS	647	670	796	231	149	23%
34041	INTERIOR DESIGNERS	642	664	797	205	155	24%
66014	PSYCHIATRIC AIDES	639	667	789	339	150	23%
61008	HOUSEKEEPERS	633	675	869	384	236	37%
92197	ALL OTHER METAL & PLASTIC MACHINE SET-UP OPERS	627	659	787	236	160	26%
93105	MACHINE BUILDERS & PRECISION MACHINE ASSEMBLERS	622	636	749	178	127	20%
63035	DETECTIVES & INVESTIGATORS, EXC. PUBLIC	621	649	775	187	154	25%
31210	SOCIAL SCIENCE TEACHERS	619	549	713	153	94	15%
87711	HIGHWAY MAINTENANCE WORKERS	607	619	702	167	95	16%
81000	FIRST LINE MGRS./SUPERS.-PROD./CONST./MAINT. & RE	605	627	757	268	152	25%
56099	ALL OTHER OFFICE MACHINE OPERATORS	602	624	740	347	138	23%
32917	RADIOLOGIC TECHNOLOGISTS	588	626	760	315	172	29%
91502	NUMER. CONTROL MACHINE TOOL OPERS.-METAL & PLASTI	584	600	702	211	118	20%
95002	WATER & LIQUID WASTE TREATMENT SYSTEM OPERS.	582	595	673	124	91	16%
69308	WOOD MACHINISTS	581	601	711	203	130	22%
49032	DEMONSTRATORS, PROMOTERS, & MODELS	578	596	716	282	138	24%
87811	GLAZIERS	576	604	736	211	160	28%
98315	HELPERS -PLUMBERS, PIPEFITTERS, & STEAMFITTERS	568	599	736	225	168	30%
85326	AIRCRAFT ENGINE SPECIALISTS	560	573	654	125	94	17%
27108	PSYCHOLOGISTS	556	536	665	160	109	20%
92965	CRUSHING, GRINDING, & MIXING MACHINE OPERATORS	552	563	625	133	73	13%

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

RANKED IN DESCENDING ORDER

OES CODE	OES OCCUPATIONAL TITLE	EMPLOYMENT			JOB OPPORTUNITIES	GROWTH	
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66017	PHYSICAL & CORRECTIVE THERAPY ASSISTANTS & AIDES	543	574	695	320	152	28%
21508	EMPLOYMENT INTERVIEWERS, PUB OR PRIV. EMPLOYMENT	542	562	675	211	133	25%
66026	PHARMACY ASSISTANTS	541	568	684	309	143	26%
97114	TAXI DRIVERS & CHAUFFEURS	535	554	659	204	124	23%
53114	CREDIT AUTHORIZERS	532	551	657	275	125	23%
89102	TOOL AND DIE MAKERS	530	544	625	177	95	18%
87708	PAVING, SURFACING, & TAMPING EQUIPMENT OPERATORS	530	547	648	188	118	22%
58021	MARKING CLERKS	526	537	624	247	98	19%
85128	MACHINERY MAINTENANCE WORKERS	523	535	607	143	84	16%
85118	MACHINERY MAINT. MECHS., WATER/POWER GENER. PLANT	522	537	601	125	79	15%
32514	OPTICIANS, DISPENSING & MEASURING	520	544	655	238	135	26%
34023	PHOTOGRAPHERS	512	528	629	172	117	23%
68035	SOCIAL WELFARE SERVICE AIDES	510	522	608	218	98	19%
55302	STENOGRAPHERS	506	516	601	237	95	19%
34005	TECHNICAL WRITERS	501	519	625	157	124	25%
21111	TAX PREPARERS	500	515	617	205	117	23%
34008	PUBLIC RELATIONS SPECIALISTS & PUBLICITY WRITERS	496	515	605	180	109	22%
34011	REPORTERS & CORRESPONDENTS	494	507	593	211	99	20%
21908	CONSTRUCTION AND BUILDING INSPECTORS	489	495	563	150	74	15%
32308	PHYSICAL THERAPISTS	489	520	631	246	142	29%
87899	ALL OTHER CONSTRUCTION TRADES WORKERS	480	499	602	149	122	25%
81017	FIRST LINE MGRS./SUPERS.- LABORERS & HELPERS	477	490	575	185	98	21%
93000	HAND WORKING OCCUPATIONS, INC. ASSEMBLERS	477	487	588	170	111	23%
92529	ALL OTHER PRINTING RELATED SETTERS & SET-UP OPERS	477	492	584	145	107	22%
31521	TEACHER AIDES, PARAPROFESSIONAL	475	433	539	120	64	13%
85938	INSTALLERS/REPAIRERS-MANUFACTURED BLDGS./DWELLING	449	462	549	138	100	22%
28302	LAW CLERKS	446	456	528	130	82	18%
85119	ALL OTHER MACHINERY MAINTENANCE MECHANICS	444	456	511	107	67	15%
63044	CROSSING GUARDS	432	383	498	290	66	15%
53914	REAL ESTATE CLERKS	429	448	533	229	104	24%
53128	BROKERAGE CLERKS	427	442	527	226	100	23%
31222	ENGINEERING TEACHERS	422	374	486	169	64	15%
31517	INSTRUCTIONAL COORDINATORS	418	382	487	117	69	17%
68008	MANICURISTS	411	423	508	255	97	24%
61002	FIRE FIGHTING & PREVENTION SUPERVISORS	410	417	473	84	63	15%
97951	CONVEYOR OPERATORS & TENDERS	408	414	478	117	70	17%
92997	ALL OTHER MACHINE SETTERS & SET-UP OPERATORS	408	426	512	151	104	25%
79005	NURSERY WORKERS	404	418	502	223	98	24%
31216	ENGLISH & FOREIGN LANGUAGE TEACHERS	404	359	466	118	62	15%
97302	RAILROAD CONDUCTORS & YARDMASTERS	403	412	460	169	57	14%
97305	LOCOMOTIVE ENGINEERS	403	412	460	148	57	14%
91905	PLASTIC MOLDING & CASTING MACHINE OPERS. & TENDER	402	408	443	104	41	10%
58002	DISPATCHERS-POLICE, FIRE, & AMBULANCE	401	409	463	121	62	15%
68021	USHERS, LOBBY ATTENDANTS, & TICKET TAKERS	397	410	492	168	95	24%
67008	PEST CONTROLLERS & ASSISTANTS	389	405	491	155	102	26%
91321	MACHINE FORMING OPERS. & TENDERS -METAL & PLASTIC	385	395	445	103	60	16%
97999	ALL OTHER MATERIAL MOVING EQUIPMENT OPERATORS	385	393	459	100	74	19%
85717	ELECTRONICS REPAIRERS, COMMERCIAL & INDUST. EQUIP	380	390	460	99	80	21%

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

RANKED IN DESCENDING ORDER

OES CODE	OES OCCUPATIONAL TITLE	EMPLOYMENT			JOB OPPORTUNITIES	GROWTH	
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85708	ELECTRONIC HOME ENTERTAINMENT EQUIPMENT REPAIRERS	376	388	466	116	90	24%
53702	COURT CLERKS	373	381	433	167	60	16%
53502	WELFARE ELIGIBILITY WORKERS & INTERVIEWERS	371	378	430	147	59	16%
63032	SHERIFFS & DEPUTY SHERIFFS	366	374	424	86	58	16%
91108	DRILLING/BORING MACH. SET-UP OPERS.-METAL & PLAST	365	374	436	113	71	19%
27105	URBAN & REGIONAL PLANNERS	363	371	421	74	58	16%
66099	ALL OTHER HEALTH SERVICE WORKERS	362	383	456	133	94	26%
21117	BUDGET ANALYSTS	358	364	422	107	64	18%
85711	ELECTRIC HOME APPLIANCE & POWER TOOL REPAIRERS	347	354	421	108	74	21%
53708	LICENSE CLERKS	347	353	402	155	55	16%
92953	COATING, PAINTING, & SPRAYING MACHINE OPERATORS	346	355	405	95	59	17%
89505	CUSTOM TAILORS & SEWERS	340	346	402	128	62	18%
32302	RESPIRATORY THERAPISTS	338	361	438	175	100	30%
58014	METER READERS, UTILITIES	336	346	387	71	51	15%
21905	MANAGEMENT ANALYSTS	332	341	399	160	67	20%
87805	SHEET METAL DUCT INSTALLERS	330	349	428	139	98	30%
22311	SURVEYING & MAPPING SCIENTISTS	330	340	401	98	71	22%
85728	ELECTRICAL INSTALLERS & REPRS., TRANSPORT. EQUIP.	327	335	386	95	59	18%
53126	STATEMENT CLERKS	324	334	399	170	75	23%
53108	TRANSIT CLERKS	324	334	399	160	75	23%
89708	PRECISION LITHOGRAPHY & PHOTOENGRAVING WORKERS	323	334	397	90	74	23%
57108	CENTRAL OFFICE OPERATORS	321	329	366	164	45	14%
31218	ART, DRAMA, & MUSIC TEACHERS	319	283	369	104	50	16%
21914	TAX EXAMINERS, COLLECTORS, AND REVENUE AGENTS	316	317	339	76	23	7%
92546	BINDERY MACHINE OPERATORS	313	323	380	107	67	21%
32199	ALL OTHER HEALTH DIAGNOSING/TREATING PRACTITIONER	312	332	403	195	91	29%
25302	OPERATIONS & SYSTEMS ANALYSTS, EXC. COMPUTER	311	320	386	84	76	24%
21921	CLAIMS EXAMINERS, PROPERTY & CASUALTY INSURANCE	309	321	384	114	75	24%
21502	CLAIMS TAKERS, UNEMPLOYMENT BENEFITS	309	315	357	107	48	16%
34017	ANNOUNCERS, RADIO & TELEVISION	308	316	353	65	45	15%
89314	FURNITURE FINISHERS	307	317	379	82	72	23%
92541	TYPESETTING & COMPOSING MACHINE OPERS. & TENDERS	306	315	374	176	68	22%
56008	MAIL MACHINE OPERATORS, PREPARATION AND HANDLING	304	315	377	180	73	24%
85905	PRECISION INSTRUMENT REPAIRERS	302	312	358	77	56	19%
34051	MUSICIANS, INSTRUMENTAL	300	309	374	125	74	25%
93953	GRINDING & POLISHING WORKERS, HAND	296	304	355	89	59	20%
89508	UPHOLSTERERS	292	299	355	108	63	22%
87602	CARPET INSTALLERS	291	305	371	93	80	27%
87999	ALL OTHER EXTRACTIVE WORKERS, EXC. HELPERS	288	291	347	90	59	20%
91917	ELECTROLYTIC COATING MACH. SET-UP OPRS.-MTL. & PL	287	291	317	63	30	10%
31114	NURSING INSTRUCTORS	285	267	341	91	56	20%
98316	HELPERS -ROOFERS	283	299	367	112	84	30%
24599	ALL OTHER PHYSICAL AND LIFE SCIENCE TECHS.	280	286	336	84	56	20%
28311	TITLE EXAMINERS & ABSTRACTORS	278	288	343	147	65	23%
25315	FINANCIAL ANALYSTS, STATISTICAL	277	285	341	90	64	23%
19002	PUBLIC ADMIN. EXECUTIVES, LEGISLATORS, & ADMIN.	277	282	321	96	44	16%
87714	RAIL-TRACK LAYING & MAINTENANCE EQUIP. OPERATORS	276	283	316	86	40	14%
89123	JEWELERS & SILVERSMITHS	276	287	345	119	69	25%

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

RANKED IN DESCENDING ORDER

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57105	DIRECTORY ASSISTANCE OPERATORS	275	282	314	141	39	14%
92944	CUTTING & SLICING MACHINE OPERATORS & TENDERS	273	278	305	62	32	12%
89111	TOOL GRINDERS, FILERS, SHARPENERS (PRECISION)	272	277	318	72	46	17%
91714	METAL FABRICATORS, STRUCTURAL METAL PRODUCTS	270	281	318	67	48	18%
92198	ALL OTHER METAL & PLASTIC MACHINE OPERATORS	267	277	328	94	61	23%
85726	STATION INSTALLERS & REPAIRERS, TELEPHONE	266	273	304	52	38	14%
55317	CORRESPONDENCE CLERKS	266	272	327	134	61	23%
32928	SURGICAL TECHNICIANS	265	283	344	132	79	30%
92951	COATING, PAINTING, & SPRAYING MACHINE SET-UP OPRS	262	268	313	77	51	19%
85932	ELEVATOR INSTALLERS & REPAIRERS	261	276	339	103	78	30%
89808	FOOD BATCHMAKERS	261	262	264	33	3	1%
83099	ALL OTHER INSPECTORS, TESTERS, & REL. OCCUPATIONS	257	265	311	89	54	21%
24308	BIOLOGICAL SCIENTISTS	251	264	294	76	43	17%
91000	MACHINE SETTERS, OPERATORS, & TENDERS	250	251	295	64	45	18%
91111	MILLING/PLANING MACH. SET-UP OPERS.-METAL & PLAST	244	251	295	85	51	21%
89921	PRECISION DENTAL LABORATORY TECHNICIANS	244	260	315	109	71	29%
32314	SPEECH PATHOLOGISTS AND AUDIOLOGISTS	243	232	290	93	47	19%
27199	ALL OTHER SOCIAL SCIENTISTS	241	248	290	70	49	20%
92308	SAWING MACHINE OPERATORS & TENDERS	240	246	291	81	51	21%
92971	EXTRUDING, FORMING, & PRESSING MACHINE OPERATORS	239	244	263	50	24	10%
63011	POLICE DETECTIVES	237	242	274	49	37	16%
32911	MEDICAL RECORDS TECHNICIANS AND TECHNOLOGISTS	235	250	300	155	65	28%
32523	DIETETIC TECHNICIANS	230	242	292	128	62	27%
32521	DIETITIANS AND NUTRITIONISTS	230	243	293	127	63	27%
89000	PRECISION PRODUCTION OCCUPATIONS	226	223	274	63	48	21%
93102	AIRCRAFT STRUCTURE & SYSTEMS ASSEMBLERS -PRECISIO	225	231	269	104	44	20%
92947	PAINTERS, TRANSPORTATION EQUIPMENT	225	229	272	72	47	21%
31224	MATHEMATICAL SCIENCE TEACHERS	224	198	258	56	34	15%
34028	BROADCAST TECHNICIANS	223	229	257	45	34	15%
34056	PRODUCERS, DIRECTORS, ACTORS, & OTHER ENTERTAINER	223	227	267	72	44	20%
95028	POWER DISTRIBUTORS & DISPATCHERS	223	229	255	50	32	14%
92968	EXTRUDING, FORMING, & PRESSING MACH. SET-UP OPERS	222	223	250	56	28	13%
24105	CHEMISTS, EXC. BIOCHEMISTS	222	230	264	60	42	19%
87314	REINFORCING METAL WORKERS	221	234	288	94	67	30%
55326	PROCUREMENT CLERKS	220	229	274	71	54	25%
89799	ALL OTHER PRECISION PRINTING WORKERS	217	223	266	84	49	23%
87605	FLOOR LAYERS, EXC. CARPET, WOOD, & HARD TILES	216	227	276	77	60	28%
24505	CHEMICAL TECHNICIANS & TECHNOLOGISTS, EXC. HEALTH	215	224	255	54	40	19%
95099	ALL OTHER PLANT AND SYSTEM OPERATORS	215	122	246	58	31	14%
56021	DATA KEYERS, COMPOSING	214	222	269	130	55	26%
97923	EXCAVATING & LOADING MACHINE OPERATORS	212	220	262	73	50	24%
53111	LOAN INTERVIEWERS	212	218	261	85	49	23%
27102	ECONOMISTS, INCLUDING MARKET RESEARCH ANALYSTS	212	217	248	55	36	17%
92524	SCREEN PRINTING MACHINE SETTERS & SET-UP OPERATOR	211	216	257	94	46	22%
22500	ENGINEERING & RELATED TECHS	211	197	249	56	38	18%
93944	MOLDERS & CASTERS, HAND	206	206	233	43	27	13%
31202	LIFE SCIENCE TEACHERS	205	182	236	56	31	15%
22508	INDUSTRIAL ENGINEERING TECHNICIANS/TECHNOLOGISTS	202	205	254	71	52	26%

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

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39002	AIRPLANE DISPATCHERS & AIR TRAFFIC CONTROLLERS	201	202	216	21	15	7%
89899	ALL OTHER PRECISION FOOD AND TOBACCO WORKERS	200	201	202	27	2	1%
89517	PRESSERS, DELICATE FABRICS	199	205	246	87	47	24%
91508	COMBINATION MACHINE TOOL OPERS.-METAL & PLASTIC	197	203	231	63	34	17%
58017	WEIGHERS, MEASURERS, & CHECKERS - RECORDKEEPING	197	200	233	51	36	18%
70000	AG., FORESTRY, FISHING, & RELATED	195	200	226	65	31	16%
91921	ELECTROLYTIC COATING MACH. OPERS.-METAL & PLASTIC	194	197	225	54	31	16%
97199	ALL OTHER MOTOR VEHICLE OPERATORS	194	200	231	48	37	19%
43005	BROKERS, REAL ESTATE	192	201	242	98	50	26%
79017	ANIMAL CARETAKERS, EXC. FARM	192	197	234	85	42	22%
95032	STATIONARY ENGINEERS	192	199	236	66	44	23%
89914	PRECISION PHOTOGRAPHIC PROCESS WORKERS	188	195	235	79	47	25%
28102	JUDGES & MAGISTRATES	188	192	215	83	27	14%
87308	HARD TILE SETTERS	187	198	243	68	56	30%
21305	PURCHASING AGENTS & BUYERS, FARM PRODUCTS	183	187	221	64	38	21%
91302	PUNCHING MACHINE SET-UP OPERS.-METAL & PLASTIC	179	180	189	34	10	6%
92314	WOODWORKING MACHINE OPERS. & TENDERS, EXC. SAWING	178	184	217	59	39	22%
28308	TITLE SEARCHERS	177	184	220	95	43	24%
24111	GEOLOGISTS, GEOPHYSICISTS, AND OCEANOGRAPHERS	177	179	204	33	27	15%
32511	PHYSICIAN'S ASSISTANTS	177	189	229	105	52	29%
68011	SHAMPOOERS	174	180	216	109	42	24%
24500	PHYSICAL & LIFE SCIENCE TECHS.	174	174	203	42	29	17%
32305	OCCUPATIONAL THERAPISTS	169	178	217	82	48	28%
89199	ALL OTHER PRECISION METAL WORKERS	168	171	200	59	32	19%
85947	COIN & VENDING MACHINE SERVICERS & REPAIRERS	168	172	196	41	28	17%
34044	MERCHANDISE DISPLAYERS & WINDOW TRIMMERS	168	171	200	72	32	19%
92941	CUTTING & SLICING MACH. SETTERS & SET-UP OPERATOR	166	169	180	29	14	8%
85511	SIGNAL OR TRACK SWITCH MAINTAINERS	166	169	189	38	23	14%
31505	TECHNICAL ASSISTANTS, LIBRARY	165	153	195	78	30	18%
93947	PAINTING, COATING, & DECORATING WORKERS, HAND	161	166	194	44	33	20%
22517	ESTIMATORS & DRAFTERS, UTILITIES	161	164	183	35	22	14%
97808	PARKING LOT ATTENDANTS	159	167	207	60	48	30%
68002	BARBERS	159	163	196	64	37	23%
92525	BINDERY MACHINE SETTERS & SET-UP OPERATORS	158	162	194	62	36	23%
93926	CUTTERS & TRIMMERS, HAND	155	158	180	37	25	16%
92521	PHOTOENGRAVING & LITHOGRAPHING PHOTOGRAPHERS	154	160	188	41	34	22%
85328	SMALL ENGINE SPECIALISTS	153	160	192	50	39	25%
87817	FENCE ERECTORS	151	159	196	63	45	30%
34058	ATHLETES, COACHES, UMPIRES, AND RELATED WORKERS	150	141	179	45	29	19%
85514	RADIO MECHANICS	149	153	172	34	23	15%
91305	PRESS/PRESS BRAKE MACH. SET-UP OPRS.-METAL & PLAS	146	149	167	30	21	14%
89705	JOB PRINTERS	146	149	179	55	33	23%
97944	CRANE AND TOWER OPERATORS	145	150	174	41	29	20%
91705	WELDING MACHINE OPERATORS & TENDERS	144	146	177	47	33	23%
91902	PLASTIC MOLDING & CASTING MACHINE SET-UP OPERS.	142	144	161	30	19	13%
92921	ROASTING, BAKING, & DRYING MACH. OPERS., FOOD	141	142	143	19	2	1%
91702	WELDING MACHINE SETTERS & SET-UP OPERATORS	139	141	161	32	22	16%
32000	HEALTH PRACTITIONERS, TECHS., & RELATED	139	145	173	57	34	24%

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

RANKED IN DESCENDING ORDER

OES CODE	OES OCCUPATIONAL TITLE	EMPLOYMENT			JOB OPPORTUNITIES	GROWTH	
		1989	1990	1994	1989-94	1989-94	
97311	LOCOMOTIVE FIRERS	137	141	157	29	20	15%
53911	PROOFREADERS & COPY MARKERS	137	140	170	45	33	24%
22308	LANDSCAPE ARCHITECTS	137	141	169	50	32	23%
92956	CEMENTING & GLUING MACHINE OPERATORS & TENDERS	132	137	160	41	28	21%
31226	COMPUTER SCIENCE TEACHERS	132	118	152	26	20	15%
32108	OPTOMETRISTS	132	140	171	61	39	30%
85714	ELECTRIC MOTOR, TRANSFORMER, AND RELATED REPAIRERS	130	134	160	40	30	23%
85721	POWERHOUSE, SUBSTATION, AND RELAY ELECTRICIANS	129	132	147	29	18	14%
24305	AGRICULTURAL & FOOD SCIENTISTS	128	131	153	43	25	20%
85321	FARM EQUIPMENT MECHANICS	127	130	156	37	29	23%
93197	ALL OTHER PRECISION ASSEMBLERS, METAL	125	127	136	24	11	9%
85923	LOCKSMITHS & SAFE REPAIRERS	121	124	149	39	28	23%
53308	INSURANCE EXAMINING CLERKS	119	123	146	59	27	23%
92914	PAPER GOODS MACHINE SETTERS & SET-UP OPERATORS	118	120	130	24	12	10%
91928	HEATING EQUIPMENT SET-UP OPERS.-METAL & PLASTIC	118	122	145	36	27	23%
22132	SAFETY ENGINEERS, EXCEPT MINING	118	121	142	28	24	20%
24199	ALL OTHER PHYSICAL SCIENTISTS	117	121	137	26	20	17%
85911	ELECTRIC METER INSTALLERS & REPAIRERS	117	120	133	21	16	14%
39005	TRAFFIC TECHNICIANS	117	120	136	31	19	16%
92545	PHOTOENGRAVING & LITHOGRAPHING MACHINE OPERATORS	116	121	146	44	30	26%
85308	MOTORCYCLE REPAIRERS	111	113	132	30	21	19%
53802	TRAVEL CLERKS	111	118	149	70	38	34%
24502	BIOLOGICAL, AGRI., & FOOD TECHS., EXC. HEALTH	110	112	122	24	12	11%
91932	HEAT TREATING/TEMPERING MACH. OPRS.-METAL & PLAST	109	113	137	38	28	26%
93951	ENGRAVING & PRINTING WORKERS, HAND	109	113	136	31	27	25%
31204	CHEMISTRY TEACHERS	108	96	124	28	16	15%
91505	COMBINATION MACH. TOOL SET-UP OPRS.-METAL & PLAST	107	110	127	28	20	19%
21505	SPECIAL AGENTS, INSURANCE	106	111	132	38	26	25%
87902	EARTH DRILLERS, EXC. OIL & GAS	105	109	124	28	19	18%
85505	FRAME WIRERS, CENTRAL OFFICE	105	108	121	21	16	15%
63028	CRIMINAL INVESTIGATORS, FEDERAL	105	105	112	46	7	7%
85123	MILLWRIGHTS	103	106	134	41	31	30%
22100	ENGINEERS	103	103	127	27	24	23%
92905	MOTION PICTURE PROJECTIONISTS	102	105	126	47	24	24%
68017	GUIDES	101	103	115	39	14	14%
31111	LECTURERS	101	104	125	37	24	24%
87508	PIPELAYERS	100	104	128	39	28	28%
93917	SOLDERERS & BRAZERS	100	106	126	33	26	26%
89399	ALL OTHER PRECISION WOODWORKERS	97	100	122	34	25	26%
56005	DUPLICATING MACHINE OPERATORS	97	97	118	42	21	22%
63023	BAILIFFS	96	98	112	23	16	17%
87511	SEPTIC TANK SERVICERS & SEWER PIPE CLEANERS	95	98	118	36	23	24%
22114	CHEMICAL ENGINEERS	95	97	112	19	17	18%
32317	RECREATIONAL THERAPISTS	95	101	122	47	27	28%
95023	AUXILIARY EQUIPMENT OPERATORS, POWER	94	95	106	27	12	13%
95021	POWER GENERATING PLANT OPERS., EXC. AUX. EQUIP.	94	96	108	28	14	15%
91102	SAWING MACHINE TOOL SET-UP OPERS.- METAL & PLASTI	92	94	107	23	15	16%
85951	BICYCLE REPAIRERS	92	95	115	31	23	25%

63

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

RANKED IN DESCENDING ORDER

OES CODE	OES OCCUPATIONAL TITLE	EMPLOYMENT			JOB OPPORTUNITIES	GROWTH	
		1989	1990	1994	1989-94	1989-94	
89911	PRECISION DETAIL DESIGN DECORATORS AND PAINTERS	91	94	111	26	20	22%
32926	ELECTROCARDIOGRAPH TECHNICIANS & TECHNOLOGISTS	89	95	116	44	27	30%
98323	HELPERS -EXTRACTIVE WORKERS	88	94	115	35	27	31%
31508	AUDIO-VISUAL SPECIALISTS	88	78	101	32	13	15%
92311	WOODWORKING MACH. SET-UP OPERATORS, EXC. SAWING	86	88	103	28	17	20%
85928	MECHANICAL CONTROL & VALVE INSTALLERS & REPAIRERS	86	86	94	10	8	9%
95000	PLANT & SYSTEM OCCUPATIONS	84	81	101	23	17	20%
57111	TELEGRAPH AND TELETYPE OPERATORS	84	87	103	28	19	23%
89302	PATTERN & MODEL MAKERS, WOOD (EXC. CARPENTERS)	83	85	102	30	19	23%
98300	CONSTRUCTION & EXTRACTIVE WORKER HELPERS	82	84	99	24	17	21%
24100	PHYSICAL SCIENTISTS	82	84	94	15	12	15%
93911	GLAZIERS, MANUFACTURING	81	82	91	20	10	12%
95026	POWER REACTOR OPERATORS	80	82	91	17	11	14%
15002	POSTMASTERS AND MAIL SUPERINTENDENTS	80	80	85	27	5	6%
79999	ALL OTHER AG., FORESTRY, FISHING, & RELATED WKRS.	80	85	100	29	20	25%
39011	FUNERAL DIRECTORS & MORTICIANS	79	81	97	28	18	23%
32914	NUCLEAR MEDICINE TECHNOLOGISTS	79	83	102	41	23	29%
79002	FOREST & CONSERVATION WORKERS	79	80	88	11	9	11%
92928	COOLING & FREEZING EQUIPMENT OPERATORS & TENDERS	75	75	75	8	0	0%
92522	SPECIALTY MATERIALS PRINTING MACH. SET-UP OPERS.	75	76	89	22	14	19%
93108	FITTERS, STRUCTURAL METAL -PRECISION	75	78	91	25	16	21%
89805	BAKERS, MANUFACTURING	73	73	74	15	1	1%
85317	RAIL CAR REPAIRERS	72	73	82	22	10	14%
32399	ALL OTHER THERAPISTS	71	75	91	35	20	28%
92932	DAIRY PROCESSING EQUIPMENT OPERS. INCL. SETTERS	69	69	70	12	1	1%
85908	ELECTROMEDICAL AND BIOMEDICAL EQUIPMENT REPAIRERS	68	73	86	23	18	26%
89117	PRECISION LAYOUT WORKERS, METAL	67	68	78	14	11	16%
39014	EMBALMERS	66	68	82	22	16	24%
31206	PHYSICS TEACHERS	66	59	76	18	10	15%
92923	FURNACE, KILN, OVEN, DRIER, OR KETTLE OPERATORS	65	66	75	18	10	15%
68041	FUNERAL ATTENDANTS	64	66	79	32	15	23%
97941	HOIST & WINCH OPERATORS	63	67	80	21	17	27%
31212	HEALTH SPECIALTIES TEACHERS	62	55	72	17	10	16%
25310	MATHEMATICAL SCIENTISTS	62	64	71	20	9	15%
25111	PROGRAMMERS - NUMERICAL, TOOL, & PROCESS CONTROL	61	61	72	11	11	18%
91308	SHEAR/SLITTER MACH. SET-UP OPERS.-METAL & PLASTIC	61	61	66	7	5	8%
68032	WARDROBE, & LOCKER & DRESSING ROOM ATTENDANTS	60	61	74	22	14	23%
24300	LIFE SCIENTISTS	60	61	67	13	7	12%
34014	BROADCAST NEWS ANALYSTS	59	60	67	11	8	14%
89511	SHOE & LEATHER WORKERS & REPAIRERS -PRECISION	59	61	69	19	10	17%
92958	CLEANING, WASHING, & PICKLING EQUIPMENT OPERATORS	56	57	64	12	8	14%
66023	AMBULANCE DRIVERS & ATTDTS.-EXC. EMER. MED. TECHS	56	59	69	20	13	23%
92302	SAWING MACHINE SETTERS & SET-UP OPERATORS	55	58	68	17	13	24%
89135	BOILERMAKERS	55	57	70	20	15	27%
89105	PRECISION INSTRUMENT MAKERS	54	55	66	21	12	22%
32111	PODIATRISTS	54	57	69	23	15	28%
85113	MACHINERY MAINTENANCE MECHANICS, SEWING MACHINES	53	56	58	8	5	9%
31209	ALL OTHER PHYSICAL SCIENCE TEACHERS	53	47	61	14	8	15%

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

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		1989	1990	1994	1989-94	1989-94	
85956	MENDERS-GARMENTS, LINENS, & RELATED	52	53	64	18	12	23%
87305	STONEMASONS	51	53	65	16	14	27%
24302	FORESTERS AND CONSERVATION SCIENTISTS	51	51	54	6	3	6%
25313	ACTUARIES	50	52	62	21	12	24%
79011	GRADERS AND SORTERS, AGRICULTURAL PRODUCTS	50	51	58	18	8	16%
93932	CARPET CUTTERS, DIAGRAMMERS, & SEAMERS	48	51	62	20	14	29%
57199	ALL OTHER COMMUNICATIONS EQUIPMENT OPERATORS	48	50	55	20	7	15%
27502	CLERGY	47	49	58	17	11	23%
27100	SOCIAL SCIENTISTS	46	48	54	10	8	17%
32923	ELECTROENCEPHALOGRAPH TECHNICIANS & TECHNOLOGISTS	45	47	57	20	12	27%
31323	FARM & HOME MANAGEMENT ADVISORS	44	45	51	12	7	16%
87105	CEILING TILE INSTALLERS & ACOUSTICAL CARPENTERS	44	46	57	15	13	30%
92938	CHEMICAL EQUIPMENT TENDERS	43	46	51	14	8	19%
39008	RADIO OPERATORS	43	44	50	12	7	16%
89711	BOOKBINDERS	41	42	50	18	9	22%
97308	RAIL YARD ENGINEERS, DINKEY OPERATORS, & HOSTLERS	41	42	46	14	5	12%
89502	FABRIC & APPAREL PATTERNMAKERS, & LAYOUT WORKERS	40	43	47	10	7	18%
93928	PORTABLE MACHINE CUTTERS	40	41	44	8	4	10%
22105	METALLURGISTS & METALLURGICAL & MATRLS. ENGINEERS	40	40	47	7	7	18%
91908	METAL MOLDING, COREMAKING, & CASTING MACH. SET-UP	40	42	51	13	11	28%
85921	MUSICAL INSTRUMENT REPAIRERS & TUNERS	40	41	49	12	9	23%
34026	CAMERA OPERATORS, TELEVISION & MOTION PICTURE	40	41	46	8	6	15%
66021	OCCUPATIONAL THERAPY ASSISTANTS & AIDES	40	42	52	23	12	30%
91935	FURNACE OPERATORS & TENDERS	39	42	51	16	12	31%
89905	PRECISION MOLDERS/CASTERS, EXC. JEWELRY & FOUNDRY	39	39	45	9	6	15%
83000	INSPECTORS & RELATED OCCUPATIONS	39	40	52	18	13	33%
63041	FISH & GAME WARDENS	39	40	45	8	6	15%
92510	PRINTING PRESS MACHINE SETTERS & SET-UP OPERATORS	38	40	48	12	10	26%
92917	COOKING MACHINE OPERS. & TENDERS, FOOD & TOBACCO	37	37	38	7	1	3%
22117	NUCLEAR ENGINEERS	37	38	43	7	6	16%
83008	TRANSPORTATION INSPECTORS	37	37	42	10	5	14%
32300	THERAPISTS	37	37	42	12	5	14%
92549	ALL OTHER PRINTING, BINDING, & REL. MACH. OPERS.	35	36	44	13	9	26%
87989	ALL OTHER EXTRACTIVE WORKERS, EXCEPT HELPERS	35	35	37	6	2	6%
93921	PRESSERS, HAND	34	35	42	12	8	24%
85599	ALL OTHER COMMUN. EQUIP. MECHS./INSTALLERS/REPRS.	34	36	40	6	6	18%
89908	PRECISION PATTERN/MODEL MAKERS & LAYOUT WORKERS	34	34	36	7	2	6%
25312	STATISTICIANS	32	33	38	7	6	19%
89923	MEDICAL APPLIANCE MAKERS	31	32	37	10	6	19%
63038	RAILROAD & TRANSIT POLICE & SPECIAL AGENTS	31	32	36	6	5	16%
92962	SEPARATING, FILTERING, & CLARIFYING MACH. OPERS.	29	30	30	2	1	3%
85116	MACHINERY MAINTENANCE MECHANICS, MARINE EQUIPMENT	29	30	35	8	6	21%
34047	MUSIC DIRECTORS, SINGERS, COMPOSERS, & RELATED	29	29	36	11	7	24%
89599	ALL OTHER PRECISION TEXTILE & APPAREL WORKERS	29	29	31	7	2	7%
27505	DIRECTORS, RELIGIOUS ACTIVITIES & EDUCATION	28	28	34	13	6	21%
31511	CURATORS, ARCHIVISTS, MUSEUM TECHNS. & RESTORERS	28	29	34	11	6	21%
24399	ALL OTHER LIFE SCIENTISTS	28	29	34	9	6	21%
63002	FIRE INSPECTORS	27	27	31	5	4	15%

MARICOPA

OCCUPATIONAL EMPLOYMENT AND DEMAND

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		1989	1990	1994	1989-94	1989-94	
24311	MEDICAL SCIENTISTS	26	27	33	10	7	27%
89126	PRECISION HAND WORKERS, JEWELRY & RELATED PRODUCT	25	25	30	8	5	20%
93941	METAL POURERS & CASTERS, BASIC SHAPES	25	27	33	9	8	32%
34032	FILM EDITORS	25	25	28	8	3	12%
28300	LEGAL ASSISTANTS AND TECHNICIANS, EXCEPT CLERICAL	25	27	33	14	8	32%
	OCCUPATIONS WITH EMPLOYMENT OF LESS THAN 25						
91938	HEATERS, METAL & PLASTIC				8	7	
89305	PATTERN MARKERS, WOOD				8	5	
85917	WATCHMAKERS				7	5	
92702	TEXTILE MACHINE SETTERS & SET-UP OPERATORS				4	2	
91708	SOLDERING & BRAZING MACH. SETTERS & SET-UP OPERS.				6	5	
89128	PRECISION ETCHERS & ENGRAVERS, HAND OR MACHINE				7	4	
85914	CAMERA & PHOTOGRAPHIC EQUIPMENT REPAIRERS				6	6	
53305	INSURANCE APPRAISERS, AUTO DAMAGE				6	3	
93923	SEWERS, HAND				3	2	
24108	ATMOSPHERIC AND SPACE SCIENTISTS				3	2	
72002	FIRST LINE SUPERS.-AG., FORESTRY, FISH., & RELATED				2	2	
85944	GAS APPLIANCE REPAIRERS				7	6	
53705	MUNICIPAL CLERKS				4	2	
73011	LOGGING TRACTOR OPERATORS				5	4	
89899	ALL OTHER PRECISION FOOD & TOBACCO WORKERS				1	0	
97314	SUBWAY & STREETCAR OPERATORS				3	2	
91923	NONELECTROLYTIC COATING MACH. SET-UP -MTL. & PLAS				3	3	
89114	PATTERN & MODEL MAKERS, METAL				2	2	
85508	TELEGRAPH & TELETYPE INSTALLERS & MAINTAINERS				2	2	
63026	U.S. MARSHALLS				3	1	
92935	CHEMICAL EQUIPMENT CONTROLLERS & OPERATORS				3	2	
89514	SPOTTERS, DRY CLEANING				5	3	
92926	BOILER OPERATORS & TENDERS, LOW PRESSURE				3	3	
28105	ADJUDICATORS, HEARING OFFICERS, & JUDICIAL REVIEW				3	2	
32114	VETERINARIANS AND VETERINARY INSPECTORS				1	1	
22108	MINING ENGINEERS, INCLUDING MINE SAFETY				2	2	
21917	ASSESSORS				4	2	
97953	PUMP OPERATORS				4	3	
87705	PILE DRIVING OPERATORS				4	3	
87608	FLOOR SANDING MACHINE OPERATORS				2	2	
97926	DRAGLINE OPERATORS				4	3	
73008	LOG HANDLING EQUIPMENT OPERATORS				2	1	
25319	ALL OTHER MATHEMATICAL SCIENTISTS				1	1	
87505	PIPELAYING FITTERS				3	3	
24102	PHYSICISTS AND ASTRONOMERS				2	2	
32311	CORRECTIVE AND MANUAL ARTS THERAPISTS				3	2	

MARICOPA

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		1989	1990	1994	1989-94	1989-94	
	OCCUPATIONS WITH EMPLOYMENT OF LESS THAN 25						
92714	TEXTILE BLEACHING & DYEING MACH. OPERS. & TENDERS				2	1	
85126	REFRACTORY MATERIALS REPAIRERS, EXC. BRICK MASONS				0	0	
68028	TRANSPORT. ATTDTS., EXC. FLIGHT ATTDTS. & BAGGAGE				2	1	
53505	INVESTIGATORS, CLERICAL				3	2	
22123	AGRICULTURAL ENGINEERS				1	1	
97932	LOADING MACHINE OPERATORS, UNDERGROUND MINING				-1	-1	
92305	HEAD SAWYERS				1	1	
91711	SOLDERING & BRAZING MACHINE OPERATORS & TENDERS				1	1	
92723	SHOE SEWING MACHINE OPERATORS & TENDERS				1	1	
92711	TEXTILE DRAW-OUT MACHINE OPERATORS & TENDERS				0	0	
73099	ALL OTHER TIMBER CUTTING & RELATED LOGGING WORKER				1	1	
85112	MACHINERY MAINTENANCE MECHANICS, TEXTILE MACHINES				0	0	
73002	FALLERS & BUCKERS				1	1	
87900	EXTRACTIVE & RELATED WORKERS -INC. BLASTERS				0	0	
27599	ALL OTHER RELIGIOUS WORKERS				1	1	
87702	AIR HAMMER OPERATORS				0	0	
34021	ANNOUNCERS, EXC. RADIO & TELEVISION				1	1	
22111	PETROLEUM ENGINEERS				0	0	
85117	UNDERGROUND MINE MACHINERY MECHANICS				0	0	
15021	MINING, QUARRYING, & OIL/GAS WELL DRILLING MGRS				0	0	
95005	GAS PLANT OPERATORS				1	1	
92519	ALL OTHER PRINTING PRESS SET-UP OPERATORS				0	0	
98799	ALL OTHER FREIGHT, STOCK, & MATERIAL MOVERS, HAND				0	0	
25323	MATHEMATICAL TECHNICIANS				0	0	
	******** COUNTY TOTALS	944,093	967,797	1,161,873	388,213	217,780	23%

APPENDIX E
DIRECTORY OF COUNCIL MEMBERS

Agencies

Arizona Carpenters's Joint Apprenticeship Training Committee: Fred Work, 2625 West Holly, Phoenix, Arizona 85009. Phone: 272-6547

Arizona Center for Vocational Education: Robert Kerwood, Northern Arizona University, CU Box 6025, Flagstaff, Arizona 86011. Phone: 523-5442

Arizona Community Colleges: Carol Hale, 3910 East Washington, Phoenix, Arizona 85034. Phone: 392-2402

Arizona Department of Education: Richard Condit, 1535 West Jefferson, Phoenix, Arizona 85007. Phone: 542-5106

Arizona Private School Association: Jon Cline, the Refigeration School, 4210 East Washington, Arizona 85034. Phone: 275-7133

Bureau of Apprenticeship Training: Sally Hall, U.S. Department of Labor, 3221 North 16th Street, Suite 302, Phoenix, Arizona 85016. Phone: 241-2964

City of Phoenix: Steve Young, 112 North Central Avenue, Suite 600, Phoenix, Arizona 85004. Phone: 262-6776

Department of Economic Security: Ronald Simon, P.O. Box 6123, Suite Code 733A, Phoenix, Arizona 85005. Phone: 542-3871

Maricopa County Private Industry Council: David Lopez, 3335 West Durango, Phoenix, Arizona 85009. Phone: 261-5911

Phoenix Metro Chamber of Commerce: Terry Trost, 34 West Monroe, Suite 900, Phoenix, Arizona 85003. Phone: 254-5521

State Council on Vocational Education: Richard Froese, 4725 North 19th Avenue, Suite 2, Phoenix, Arizona 85015. Phone: 255-5040

Business/Industry Advisory Council

Beam Corporation: Mary LaFevers, 439 South 3rd Avenue, Avondale, Arizona 85323

Carpenter's Local Union No. 906: Dana Martin, 8626 North 54th Drive, Glendale, Arizona 85301

Children's World: Judy Crawford, 150 Elm Street, Chandler, Arizona 85226

Cook Health Care Center: Gerry Hayes, 11315 West Peoria, Youngtown, Arizona 85363

Embassy Suites: Tom Silverman, Box 999, Scottsdale, Arizona 85253

Garrett Turbine Engine Company: Russ Biekert, 111 South 34th Street, P.O. Box 5217, Phoenix, Arizona 85019

Sincerely Sandra's Inc: Sandra Saba, 2950 North Dobson, Suite 4, Chandler, Arizona 85224

Smitty's #19: Bill Sears, 8352 West Indian School Road, Phoenix, Arizona 85037

Sonora Laboratory Services: Jim Fantus, 1500 South Dobson Road, Mesa, Arizona 85202

Secondary Districts

Agua Fria Union High School District: Steve Biloveski, 530 East Ripley Drive, Avondale, Arizona 85323. Phone: 932-4250

Buckeye Union High School District: Hank Newberry, 902 Easton Avenue, Buckeye, Arizona 85326. Phone: 386-4424

Cave Creek Unified School District: Paul Young, P.O. Box 426, Cave Creek, Arizona 85331. Phone: 488-2620

Chandler Unified School District: David Curd, 500 West Galveston, Chandler, Arizona 85224. Phone: 786-7000

Deer Valley Unified District: Owen Layton, 20402 North 15th Avenue, Phoenix, Arizona 85027. Phone: 581-7732

Dysart Unified School District: Jennie Horner, Route 1, Box 703, Peoria, Arizona 85345. Phone: 977-7281

Gila Bend Unified School District: Charles Garrett, P.O. Box V, Gila Bend, Arizona 85337. Phone: 683-2286

Gilbert Unified School District: Tricia Euen, 140 South Gilbert Road, Gilbert, Arizona 85234. Phone: 497-0177

Glendale Union High School District: Kathy Vogt, 7650 North 43rd Avenue, Glendale, Arizona 85302. Phone: 435-6031

Mesa Unified School District: Bob Jones, 549 North Stapley Drive, Mesa, Arizona 85203-7297. Phone: 898-7879

Paradise Valley Unified District: Kent Frison, 15002 North 32nd Street, Phoenix, Arizona 85032. Phone: 867-5120

Peoria Unified School District: Richard Clawson, P.O. Box 39, Peoria, Arizona 85345. Phone: 878-3939

Phoenix Union High School District: Joyce Prchal Metro Tech VIP, 1900 West Thomas Road, Phoenix, Arizona 85015. Phone: 271-3286

Queen Creek Unified School District: Dean Birch, 20435 South Ellsworth, Queen Creek, Arizona 85242. Phone: 987-9600

Scottsdale Unified School District: Ed Seagrave, Scottsdale Vo Tech, 7412 East Indian School Road, Scottsdale, Arizona 85251. Phone: 423-3740

Tempe Union High School District: Jean Paisley, 500 West Guadalupe, Tempe, Arizona 85283. Phone: 839-0292

Tolleson Union High School District: Marilyn Keller, 9419 West Van Buren, Tolleson, Arizona 85353. Phone: 936-1276

Wickenburg High School: Harold Alfred, P.O. Box Drawer 1418 Wickenburg, Arizona 85358. Phone: 684-2481

Post-Secondary Institutions

Chandler/Gilbert Community College: Andy Bernal, 2626 East Pecos Road, Chandler, Arizona 85225. Phone: 732-7000

Maricopa District Support Service Center: John Bradley, Mary Day and Bertha Landrum, 3910 East Washington, Phoenix, Arizona 85034. Phone 392-2300

GateWay Community College: Bob Huddleston, 108 North 40th Street, Phoenix, Arizona 85034. Phone: 275-8500

Glendale Community College: Jean Ann Abel, 6000 West Olive, Glendale, Arizona 85302. Phone 435-3000

Maricopa Skill Center: Stan Grossman, 4118 East Wood, Phoenix, Arizona 85040 Phone: 437-1551

Mesa Community College: Ken Schultz, 1833 West Southern Avenue, Mesa, Arizona 85202. Phone: 461-7000

Paradise Valley Community College: Kay Martens, 32nd Street and Union Hills Road, Phoenix, Arizona 85032. Phone: 493-2600

Phoenix College: Willie Minor, 1202 West Thomas Road, Phoenix, Arizona 85013. Phone: 264-2492

Rio Salado Community College: Mary Vanis, 640 North 1st Avenue, Phoenix, Arizona 85003. Phone: 223-4000

Scottsdale Community College: John Messer, 9000 East Chaparral Road, Scottsdale, Arizona 85253. Phone: 423-6000

South Mountain Community College: Norm Garrett, 7050 South 24th Street, Phoenix, Arizona 85040. Phone: 243-8000

Universities

Arizona State University: Louis J. Pardini, Industrial Technology, Tempe, Arizona 85287. Phone: 965-3781

Northern Arizona University: John Glenn, Continuing Education, CU Box 4117, Flagstaff, Arizona 86011. Phone: 523-4212

APPENDIX F
INVENTORY OF OCCUPATIONAL PROGRAMS

TRAINING AREAS / ORGANIZATIONS	1 AGUA FRIA	2 BUCKEYE	3 CAVE CREEK	4 CHANDLER	5 DEER VALLEY	6 DYSART	7 GILA BEND	8 GILBERT	9 GLENDALE UNION	10 MESA	11 PARADISE VALLEY	12 PEORIA	13 PHOENIX UNION	14 QUEEN CREEK	15 SCOTTSDALE UNIFIED	16 TEMPE	17 TOLLESON	18 WICKENBURG	19 MARICOPA COM. COLLEGES	20 MARICOPA SKILL CENTER	21 PROPRIETARY
Agriculture/Horticulture	X	X		X	X	X		X		X		X	X			X	X		X		
Business																					
Accounting	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X		X
Computer Science/Data Processing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Finance & Banking										X			X						X	X	X
Supervision/Management					X		X		X	X			X						X		X
Marketing/Dist. Ed.	X		X	X	X	X			X	X	X	X	X	X	X	X			X	X	X
Media Technology/Broadcasting										X					X				X		X
Office Occupations	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Real Estate																			X		X
Health																					
Allied Health					X				X	X	X	X	X		X		X		X	X	X
Dental					X					X			X		X				X		X
Nursing		X			X					X	X		X		X		X		X	X	
Home Economics/HERO	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Service Occupations																					
Administration of Justice/Law Enforcement													X						X		X
Cosmetology					X					X		X	X		X		X				X
Fire Science																			X		
Hospitality/Culinary								X		X			X		X				X	X	
Interpreter Training													X						X		

ORGANIZATIONS / TRAINING AREAS	1 AGUA FRIA	2 BUCKEYE	3 CAVE CREEK	4 CHANDLER	5 DEER VALLEY	6 DYSART	7 GILA BEND	8 GILBERT	9 GLENDALE UNION	10 MESA	11 PARADISE VALLEY	12 PEORIA	13 PHOENIX UNION	14 QUEEN CREEK	15 SCOTTSDALE UNIFIED	16 TEMPE	17 TOLLESON	18 WICKENBURG	19 MARICOPA COMM. COLLEGE	20 MARICOPA SKILL CENTER	21 PROPRIETARY
Library Technician																			X		
Technology & Trade & Industrial																					
Air Conditioning/Refrigeration										X			X						X		X
Auto Body Repair	X				X					X	X		X		X	X			X	X	X
Automotive Mechanics	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Aviation				X															X		X
Building/Construction		X		X	X		X	X		X	X		X	X	X		X	X	X	X	
Carpentry/Woodworking/Cabinet	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Commercial Art/Photography					X					X	X		X		X				X		X
Diesel/Heavy Equipment Tech.													X						X		X
Drafting	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Electronics/Electrical	X				X			X	X	X	X	X	X	X	X	X	X	X	X	X	X
Graphic Arts			X	X	X					X			X		X		X		X	X	X
Machine Shop					X					X			X		X				X	X	
Manufacturing																					
Marine Power																					
Mechanical Maintenance												X	X							X	
Mining																					
Small Engine Repair	X	X					X	X		X		X		X	X				X	X	
Truck Driving																			X		X

TRAINING AREAS / ORGANIZATIONS	1 AGUA FRIA	2 BUCKEYE	3 CAVE CREEK	4 CHANDLER	5 DEER VALLEY	6 DYSART	7 GILA BEND	8 GILBERT	9 GLENDALE UNION	10 MESA	11 PARADISE VALLEY	12 PEORIA	13 PHOENIX UNION	14 QUEEN CREEK	15 SCOTTSDALE UNIFIED	16 TEMPE	17 TOLLESON	18 WICKENBURG	19 MARICOPA COMM. COLLEGES	20 MARICOPA SKILL CENTER	21 PROPRIETARY
Wastewater																			X		
Welding	X			X	X	X	X	X	X	X	X	X	X			X		X	X	X	X
Miscellaneous Technologies																					
Dog Grooming																					X
Furniture Making																					
Gunsmithing																					X
Jewelry/Silversmithing																					X
Meatcutting/Butchering											X									X	
Travel													X						X		
Upholstery									X	X									X		X

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